Information Builders.

WebFOCUS

WebFOCUS Summary of New Features Highlights
Version 5 Release 2

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Preface

This manual describes the new features available in WebFOCUS Version 5 Release 2. It is intended for all levels of users, including application developers, administrators, and end users.

How This Manual Is Organized

This manual includes the following chapters:

Chapter		Contents
1	Creating Reports Using Language and Graphical Tools	Describes new features in WebFOCUS that apply to creating reports, with either command syntax or graphical tools.
2	Security and Environment Considerations	Describes WebFOCUS features that pertain to client and server behavior, accessibility support, and National Language Support (NLS).
3	Managed Reporting	Describes new features that enhance Managed Reporting, including User Administration Services, the applet environment, and migration and extract utilities.
4	Ad Hoc Reporting	Describes new features that enhance ad hoc reporting capabilities. These enhancements include OLAP, Report Assistant, and Graph Assistant features.
5	ReportCaster	Describes new features that pertain to ReportCaster.
6	ReportCaster API and Two-Way Email API	Supplements the *ReportCaster and Two-Way Email API for Self-Service Applications* manual.
7	WebFOCUS Client Console	Describes the WebFOCUS Client Console, which enables you to remotely manage your WebFOCUS environment.
8	Developer Studio	Describes new features that apply specifically to Developer Studio.
9	Maintain	Describes new features that enhance the functionality and ease-of-use of WebFOCUS Maintain.

Documentation Conventions

The following conventions apply throughout this manual:

Convention	Description
`THIS TYPEFACE` or `this typeface`	Denotes syntax that you must enter exactly as shown.
`this typeface`	Represents a placeholder (or variable) in syntax for a value that you or the system must supply.
`underscore`	Indicates a default setting.
this typeface	Represents a placeholder (or variable) in a text paragraph, a cross-reference, or an important term. It may also indicate a button, menu item, or dialog box option you can click or select.
this typeface	Highlights a file name or command in a text paragraph that must be lowercase.
Key + Key	Indicates keys that you must press simultaneously.
`{ }`	Indicates two or three choices; type one of them, not the braces.
`[ ]`	Indicates a group of optional parameters. None are required, but you may select one of them. Type only the parameter in the brackets, not the brackets.
`|`	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
`...`	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis points (…).
`.` `.` `.`	Indicates that there are (or could be) intervening or additional commands.

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Do you have questions about WebFOCUS?

Call Information Builders Customer Support Service (CSS) at (800) 736-6130 or (212) 736-6130. Customer Support Consultants are available Monday through Friday between 8:00 a.m. and 8:00 p.m. EST to address all your WebFOCUS questions. Information Builders consultants can also give you general guidance regarding product capabilities and documentation. Please be ready to provide your six-digit site code (*xxxx.xx*) when you call.

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Information You Should Have

To help our consultants answer your questions most effectively, please provide the following information when you call:

- Your six-digit site code (*xxxx.xx*).
- Your WebFOCUS configuration:
  - The front-end you are using, including vendor and release.
  - The communications protocol (for example, TCP/IP or HLLAPI), including vendor and release.
  - The software release.
  - The server you are accessing, including release (for example, 5.2).
- The stored procedure (preferably with line numbers) or WebFOCUS commands being used in server access.
- The name of the Master File and Access File.

- The exact nature of the problem:
  - Are the results or the format incorrect? Are the text or calculations missing or misplaced?
  - The error message and return code, if applicable.
  - Is this related to any other problem?
- Has the procedure or query ever worked in its present form? Has it been changed recently? How often does the problem occur?
- What release of the operating system are you using? Has it, WebFOCUS, your security system, communications protocol, or front-end software changed?
- Is this problem reproducible? If so, how?
- Have you tried to reproduce your problem in the simplest form possible? For example, if you are having problems joining two data sources, have you tried executing a query containing the code to access a single data source?
- Do you have a trace file?
- How is the problem affecting your business? Is it halting development or production? Do you just have questions about functionality or documentation?

User Feedback

In an effort to produce effective documentation, the Documentation Services staff welcomes your opinions regarding this manual. Please use the Reader Comments form at the end of this manual to relay suggestions for improving the publication or to alert us to corrections. You can also use the Documentation Feedback form on our Web site, http://www.informationbuilders.com.

Thank you, in advance, for your comments.

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CHAPTER 1

Creating Reports Using Language and Graphical Tools

These topics describe new features in WebFOCUS that apply to creating reports, with either command syntax or graphical tools.

Topics:

- Overview of New SET Parameters
- Improving the Display of Decimal Only Numbers
- Compiling Virtual Fields
- Handling an Error in a Request
- Using the Same FOR Field Values in Multiple Rows
- Altering X and Y Axis Values Using Linear Regression
- Specifying Holidays
- Creating a Cascading Style Sheet Command in an HTML Page
- Distinguishing Between Missing Data and Default Data
- Setting Paper Size
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- Amper Auto-Prompting in CGI/Servlet

Overview of New SET Parameters

You can customize your WebFOCUS and Developer Studio environments with the SET command. The following SET parameters are new to WebFOCUS and Developer Studio.

CENT-ZERO

Displays a leading zero in decimal-only numbers.

DEFINES

Compiles virtual fields into machine code to improve performance.

ERROROUT

Terminates a request and returns an error message when an error is encountered.

FORMULTIPLE

Allows you to include the same FOR field value in multiple rows of the FML matrix.

GTREND

Alters the X and Y axis values in a SCATTER graph using basic linear regression.

HDAY

Specifies the holiday file from which to retrieve dates that are considered holidays.

HOLDMISS

Distinguishes between missing data and default data in a HOLD file.

HTMLCSS

Creates an internal Cascading Style Sheet command in the HTML display page.

JSURL

Includes JavaScript or VBScript files in an HTML report.

PSPAGESETUP

Enables you to set the page size for PDF and PostScript reports.

PCOMMA

Enables FOCUS to read PC type comma-delimited files with double quotation marks around alpha data and a carriage return line at the end of each record.

SAVEDMASTERS

Saves a Master File to memory after it has been used in a request.

More detailed information for these SET parameters is available in the individual topics for each parameter.

Improving the Display of Decimal Only Numbers

You can now display a leading zero in decimal only numbers with the CENT-ZERO SET parameter. This feature improves the appearance of decimal numbers that do not contain an integer portion.

This feature is introduced in WebFOCUS and Developer Studio.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Compiling Virtual Fields

You can now improve report execution by compiling virtual fields into machine code with the DEFINES SET parameter. This features is useful for increasing the speed of calculations in virtual fields.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Handling an Error in a Request

You can now terminate a request when an error is encountered with the ERROROUT SET parameter. When a job is terminated due to error, an error message is returned. The error out condition does not pass a variable that can be captured programmatically. Therefore, this SET command is not supported for procedures scheduled with ReportCaster.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Using the Same FOR Field Values in Multiple Rows

Using the FORMULTIPLE SET parameter, you can now include the same value of a FOR field—whether as a single tag value, as part of a range, or in a calculation— in multiple rows of the FML matrix.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Altering X and Y Axis Values Using Linear Regression

You can now use basic linear regression to alter the X and Y axis values in a SCATTER graph with the GTREND SET parameter. Basic linear regression involves the average of the summation of X and Y axis values to determine a linear equation that expresses the trend of the scatter diagram.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Specifying Holidays

You can specify a list of dates that are designated as holidays in your company by creating a holiday file and setting the HDAY SET parameter to find it. The dates designated as holidays are then excluded from date functions that perform calculations based on working days. For example, if Thursday in a given week is designated as a holiday, the next working day after Wednesday is Friday. This allows you to avoid incorrect calculations.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Distinguishing Between Missing Data and Default Data

You can now distinguish between missing data and default data in HOLD files by determining the way missing data is stored in a HOLD file with the HOLDMISS SET parameter.

By default, a zero or blank is produced in a HOLD file when data is missing. When HOLDMISS is set to ON, a character string is saved in the HOLD file in place of missing data. This character string is determined by the NODATA parameter.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Creating a Cascading Style Sheet Command in an HTML Page

You can now create an internal Cascading Style Sheets command in your HTML display page with the HTMLCSS SET parameter.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Controlling the Display of an HTML Report With Scripts

You can include JavaScript or VBScript files in an HTML report with the JSURL SET parameter. This parameter allows you to control the output of the report when used with Dynamic HTML because the JavaScript and VBScript files are the first files to gain control of the HTML display page.

Setting Paper Size

You can now set the paper size in PDF and PostScript reports with the PSPAGESETUP SET parameter. The PSPAGESETUP SET parameter enables the PAGESIZE and ORIENTATION SET parameters which in turn determine the size and orientation of a paper.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Retrieving Comma-Delimited Files

You can now retrieve a comma-delimited file created by a PC application or a HOLD FORMAT COM command with the PCOMMA SET parameter.

The PCOMMA SET parameter allows you to read a file that contains alphanumeric data in double quotation marks, each record contained completely on one line, and each record terminated with a carriage return and line feed. Previously, a comma-delimited file in this format could not be retrieved even if the Master File specified SUFFIX=COM. The PCOMMA SET parameter allows Master Files with SUFFIX=COM formats to read alphanumeric data with or without surrounding quotation marks, and records with or without the termination symbol.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Saving Master Files to Memory

You can now save a Master File to memory when it is used in a request with the SAVEDMASTERS SET parameter. Saving a Master File allows you to avoid having to reparse it every time it is referenced in a single procedure. Up to 99 Master Files can be saved to memory.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 15, *Customizing Your Environment* in *Developing Reporting Applications*.

Reducing Multiple Spaces in a Field to a Single Space

You can reduce multiple contiguous spaces in a character string to a single space with the SQUEEZ function. This is useful for displaying a field that contains extra spaces, such as a virtual field that combines two fields.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 4, *Character Functions,* in *WebFOCUS Using Functions*.

Removing a Character From a Field

You can remove a specific character from a field with the STRIP function. This is useful for removing punctuation in a DEFINE or COMPUTE command.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 4, *Character Functions*, in *WebFOCUS Using Functions*.

Removing Leading or Trailing Occurrences of a Pattern

You can remove leading or trailing occurrences of a pattern from a field with the TRIM function. This is useful for removing patterns where extracting a token may produce inconsistent results for a DEFINE or COMPUTE command.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 4, *Character Functions*, in *WebFOCUS Using Functions*.

Producing Row Totals for Horizontal Sort Field Values

You can now produce row totals for horizontal (ACROSS) sort field values. Row totals for horizontal sort fields are different from standard row totals in that only the horizontal sort field values are included in the total.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 6, *Including Totals and Subtotals*, in *Creating Reports with WebFOCUS Language*.

Syntax How to Produce Row Totals for Horizontal (ACROSS) Sort Field Values

```
ACROSS sortfield ACROSS-TOTAL [AS 'name'] [COLUMNS col1 AND col2 ...]
```

where:

sortfield

Is the name of the field being sorted across.

name

Is the new name for the ACROSS-TOTAL column title.

col1, col2

Are the titles of the ACROSS columns you want to include in the total.

Increased Number of Maximum Display Fields

The number of display fields you can include in a report has increased from 495 to approximately 1024 (495 for MATCH requests). This does not include sort fields. The maximum number of fields in a request is a function of the following factors:

- Hidden (NOPRINT) fields.
- Temporary (COMPUTE and DEFINE) fields.
- Internal fields. For example, TABPAGENO.
- The size of the field.
- Field references in headings and footings.

The increased number of display fields is supported in WebFOCUS and Developer Studio.

For more information, see Chapter 2, *Displaying Report Data,* in *Creating Reports with Graphical Tools*.

Grouping Numeric Data Into Tiles

You can now group numeric data into any number of tiles (percentiles, quartiles, deciles, and so on) in tabular reports. For example, you can group student test scores into deciles to determine which students are in the top ten percent of the class.

Grouping is based on the values in the selected vertical (BY) sort field and is apportioned as equally as possible into the number of tile groups you specify.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 3, *Sorting Tabular Reports,* in *Creating Reports with WebFOCUS Language*.

Syntax How to Group Numeric Data Into Tiles

```
BY [ {HIGHEST|LOWEST} [k] ] tilefield [AS 'head1']
          IN-GROUPS-OF n TILES [TOP m] [AS 'head2']
```

where:

HIGHEST

Sorts the data in descending order so that the highest data values are placed in tile 1.

LOWEST

Sorts the data in ascending order so that the lowest data values are placed in tile 1. This is the default sort order.

k

Is a positive integer representing the number of tile groups to display in the report. For example, BY HIGHEST 2 displays the two non-empty tiles with the highest data values.

tilefield

Is the field whose values are used to assign the tile numbers.

head1

Is a heading for the column that displays the values of the tile sort field.

n

Is a positive integer not greater than 32,767 specifying the number of tiles to be used in grouping the data. For example, 100 tiles produces percentiles, 10 tiles produces deciles.

m

Is a positive integer indicating the highest tile value to display in the report. For example, TOP 3 does not display any data row that is assigned a tile number greater than 3.

head2

Is a new heading for the column that displays the tile numbers.

Note:

- The syntax accepts numbers that are not integers for *k*, *n*, and *m*. On MVS and VM, values with decimals are rounded to integers; on UNIX and Windows NT they are truncated. If the numbers supplied are negative or zero, an error message is generated.
- Both *k* and *m* limit the number of rows displayed within each sort break in the report. If you specify both, the more restrictive value will control the display. If *k* and *m* are both greater than *n* (the number of tiles), *n* will be used.

Output Formats for Database Application Processing

There are three new output formats, COM, TABT, and COMT, available with ON TABLE PCHOLD. These formats enable you to save report output to a designated directory for use with a desktop product. For example, TABT files can be used with Microsoft Access.

Format COM saves data values as a variable-length text file with fields separated by commas and with character values enclosed in double quotation marks.

Format COMT also saves data values as a variable-length text file with fields separated by commas and with character values enclosed in double quotation marks. In addition, it also saves column headings in the first row of the output file.

This feature is introduced in the WebFOCUS Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 9, *Saving and Resuing Report Data,* in *Creating Reports with WebFOCUS Language*.

Reference FORMAT COM

Description:
Saves the data values as a variable-length text file with fields separated by commas and with character values enclosed in double quotation marks. Leading blanks are removed from numeric fields and trailing blanks are removed from character fields. To issue a request against this data source, the setting PCOMMA=ON is required.

This format also includes a built-in safety feature, which allows embedded quotes within text fields. This feature inserts a second double quote (") adjacent to the existing one. For example, if you input Joe "Smitty" Smith, the output will be Joe ""Smitty"" Smith.

The extension or filetype for this format is CSV. A Master File is created for this format type when the command used to create the output file is HOLD. The SUFFIX in the generated Master File is COM.

Note:

- Smart date fields and dates formatted as I or P fields with date format options are treated as numeric and are not enclosed in double quotation marks in the output file. Dates formatted as alphanumeric fields with date format options are treated as alphanumeric and enclosed in double quotation marks.
- Continental decimal notation (CDN=ON|SPACE|QUOTE) is not supported. A comma within a number would be interpreted as two separate columns by a destination application such as Microsoft Access.

Use:
For further processing in a database application. This format type can be imported into applications such as Excel or Lotus.

Supported with the commands:
HOLD, SAVE

Available in:
WebFOCUS, Developer Studio, FOCUS for S/390

Reference **FORMAT COMT**

Description:
Saves the column headings in the first row of the output file. It produces a variable-length text file with fields separated by commas and with character values enclosed in double quotation marks. Leading blanks are removed from numeric fields and trailing blanks are removed from character fields. This format is required by certain software packages such as Microsoft Access.

This format also includes a built-in safety feature, which allows embedded quotes within text fields. This feature inserts a second double quote (") adjacent to the existing one. For example, if you input Joe "Smitty" Smith, the output will be Joe ""Smitty"" Smith.

The extension or filetype for this format is CSV. A Master File is created for this format type when the command used to create the output file is HOLD. The SUFFIX in the generated Master File is COMT.

Note:

- Smart date fields and dates formatted as I or P fields with date format options are treated as numeric and are not enclosed in double quotation marks in the output file. Dates formatted as alphanumeric fields with date format options are treated as alphanumeric and enclosed in double quotation marks.
- Continental decimal notation (CDN=ON|SPACE|QUOTE) is not supported. A comma within a number would be interpreted as two separate columns by a destination application such as Microsoft Access.

Use:
For further processing in a database application. This format type can be imported into applications such as Excel or Lotus.

Supported with the commands:
HOLD, SAVE

Available in:
FOCUS for S/390; Developer Studio.

Reference FORMAT TABT

Description:
Creates an output file in tab-delimited format that includes column headings in the first row. The TABT format includes a built-in safety feature, which allows embedded quotes within text fields. This feature inserts a second double quote (") adjacent to the existing one. For example, if you input Joe "Smitty" Smith, the output will be Joe ""Smitty"" Smith. The TABT format also includes the following features:

- The first row contains field names.
- All trailing blanks are stripped from alpha[An] fields.
- All leading blanks are stripped from numeric [/Dx.y, /Fx.y, /Px.y, and /In] fields.
- There is a 32K record length limit in the output file.
- A Master File is created when the command used to create the output file is HOLD. The Master File behaves exactly as in FORMAT ALPHA, except for the inclusion of double quotes.

Note: Blank field names display as blank column titles. This may result in an error when attempting to use the file as input to various applications.

Use:
For importing data to Windows-based applications such as MS Access and Excel.

Supported with the command:
HOLD, SAVE

Available in:
WebFOCUS; Developer Studio; FOCUS for S/390

Calculating Trends and Predicting Values

You can calculate trends in data and predict values beyond the range of those stored in the data source with the Forecast feature. Forecast uses either averages or a linear regression line to distinguish trends in data. This feature is useful for predicting values that may occur beyond the current data set.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more informationon using Forecast with the WebFOCUS language, see Chapter 5, *Creating Temporary Fields,* in *Creating Reports With WebFOCUS Language*. For more information on using Forecast with Developer Studio tools, see Chapter 11, *Creating Temporary Fields,* in *Creating Reports With Graphical Tools*.

Inserting the Last Page Number of a Report

You can now insert the last page number of your report in a heading or footing using the <TABLASTPAGE system variable. For example, you can add a footing that reads "Page 1 of 5", where the value of TABLASTPAGE is 5.

This feature is introduced in WebFOCUS and Developer Studio.

For more information, See Chapter 26, *Laying Out the Report Page,* in *Creating Reports with Graphical Tools*.

Navigation Behavior in a Multi-Level HTML TOC

You can enhance navigation within a large HTML report by adding a dynamic HTML-based multi-tier Table of Contents (TOC). You can now include TOCs for more than one sort field in a report. To add a TOC for a lower-level sort field, you must also add a TOC for its parent. The TOCs display, as hyperlinks, all values of the first (highest-level) vertical sort field, as well as the values of any lower level BY fields that you designate for inclusion.

If you select a value in the TOC, that value is highlighted in gray to draw your attention to it in the browser window. Highlighting and window display changes are controlled by the position of the selected value in the sort group.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

Adding Borders for Emphasis

You can add a border around an entire HTML, PDF, or PS report or just around headings, footings, and columns to add emphasis to those components. Using the new BORDER attribute in a StyleSheet, you can also specify the weight, style, and color of border lines. If you wish, you can specify formatting variations for the top, bottom, left, and right borders.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

Aligning Decimals in a Multi-Line Heading or Footing

You can now align decimal points in a multi-line heading or footing. This feature is particularly useful when you are working with currencies that have different display conventions. For example, if a figure is in dollars, it is formatted with a decimal point and two places for zeroes. If it is in Swiss Francs, it is formatted with a decimal place and four zeroes. If it is in Yen, it is formatted with the decimal at the end and no zeroes.

By aligning the decimal points in a vertical stack, you can more easily read and compare these numbers, as illustrated in the following output:

Floating decimal points		**Aligned decimal points**	
Bond	Face Value	Bond	Face Value
Galosh Ltd.	22375.5784596	Galosh Ltd.	22375.5784596
Mukluk Inc.	1212345.457	Mukluk Inc.	1212345.457
Overshoe Inc.	232.45484	Overshoe Inc.	232.45484

This technique uses a width specification for the item that contains decimals, combined with a variation on standard left/right/center justification to achieve the proper decimal alignment.

This feature is introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

Financial Reporting Enhancements

The Financial Report Painter (previously the FML Painter) and the underlying Financial Modeling Language (FML) have been enhanced to support dynamic reporting against hierarchical data structures, more flexible use of fields in a request, and row- and cell-based styling.

For details about the Financial Report Painter, see Chapter 10, *Creating Reports With the Financial Report Painter*, in *Creating Reports With Graphical Tools*. For details about the FML language, see Chapter 17, *Creating Financial Reports*, in *Creating Reports With WebFOCUS Language*. This information is also available in a single book called *Creating Financial Reports*.

Using the Same Record in Multiple Rows

You can now reference the same value of a FOR field in more than one row of an FML request. For example, you can use the same value in a print row and in a summary row.

A new SET parameter, FORMULTIPLE, controls this behavior.

This feature is introduced in the WebFOCUS Reporting Server and can be generated in the Financial Report Painter simply by clicking the *Use Mulitple Value* check box above the Design matrix.

Reporting From a Hierarchy

Hierarchical relationships between fields can be defined in a Master File and automatically displayed using the Financial Report Painter or the Financial Modeling Language (FML). The parent and child fields must share data values and their relationship should be hierarchical. The formats of the parent and child fields must both be numeric or both alphanumeric.

For example, suppose that:

- An employee data source contains both the employee's ID and the ID of the employee's manager.

  or

- A general ledger data source contains both an account number field and an account parent field.

By examining these fields, it is possible to construct the entire organization chart or chart of accounts. However, to print the chart in a traditional FML report, you would have to list the employee IDs or account numbers in the request syntax in the order in which they should appear on the report. If an employee or account is added, removed, or transferred, you would have to change the report request to reflect this change in organizational structure. For example:

```
TABLE FILE EMPLOYEE
PRINT DEPARTMENT CURR_JOBCODE
FOR EMP_ID
999999999   OVER
222222222   OVER
 .
 .
 .
```

In contrast, with FML hierarchies you can define the hierarchical relationship between two fields in the Master File and load this information into memory. The request can then *dynamically* construct the rows that represent this relationship and display them in the report starting at any point in the hierarchy. In the example shown, EMP_ID is called the hierarchy field.

The parent/child hierarchy is represented through the new parameter in the Master File: PROPERTY=PARENT_OF. An optional attribute, PROPERTY=CAPTION, enables you to specify another field, which contains a descriptive caption, that you can choose to display in a report in place of the hierarchy field values.

The ability to define a hierarchy in a Master File is particularly useful when working with a cube data structure, such as ESSBASE. However, it can be employed with other data source types.

Displaying a Hierarchy

When you report against a hierarchy defined with these fields, you can retrieve the values of parent and children or children only:

- GET CHILDREN displays only the children, not the parent value referenced in the command. In the Financial Report Painter, this option is reflected in the TAG dialog box as *Show only children*.
- WITH CHILDREN displays the parent and then the children. In the Financial Report Painter, this option is reflected in the TAG dialog box as *Show with all children*.

For either option, you can specify the level in the hierarcy from which you want to display children. For example, *Show with children to Level 2* displays the specified parent value plus its direct children and grandchildren.

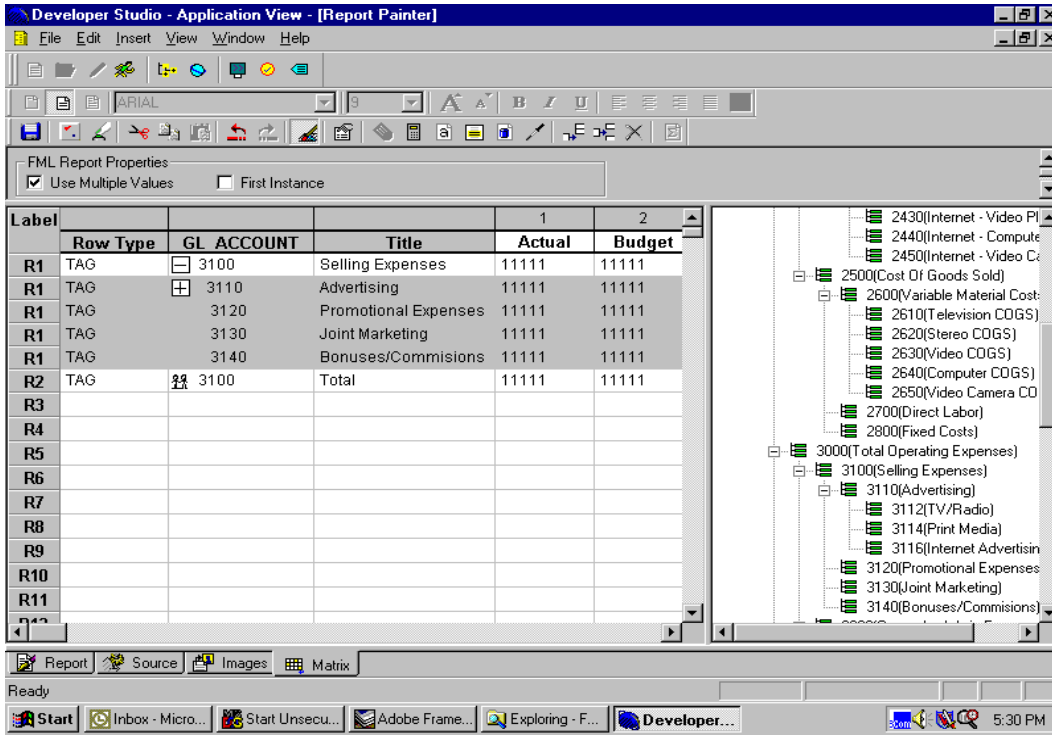
Consolidating Data in a Hierarchy

You can consolidate multiple levels of the hierarchy on one line of the report output. Consolidatation (ADD in the FML language) can be used alone or in conjunction with the GET CHILDREN (Show only children) or WITH CHILREN (Show with children). Consolidation is designed to work with Summary fields and detail level data, not data that is already consolidated.

- When used *alone*, the Consolidate option aggregates the parent and children on one line of the report output, summing the numeric data values included on the line.
- When used in conjunction with *Show only children*, the Consolidate option displays one line for each child of the specified parent value. Each line is a summation of that child and all of its children.You can specify the number of levels of children to display (which determines the number of lines generated on the report output) and the depth of summation under each child. By default, only direct children will have a line in the report output and the summary for each child will include all of its children.
- When used in conjunction with *Show with children*, the Consolidate option first displays a line in the report output that consists of the summation of the parent value and all of its children. Then it displays additional lines identical to those displayed by *Show only children* plus *Consolidate*.

Financial Report Painter Enhancements

In the Financial Report Painter, the hierarchy defined in the Master File is reflected in the FOR field values panel to the right of the Design matrix, as shown in the following illustration. If the hierarchy fields are defined with captions in the Master File, the resulting report indents the captions proportionate to their levels in the hierarchy.



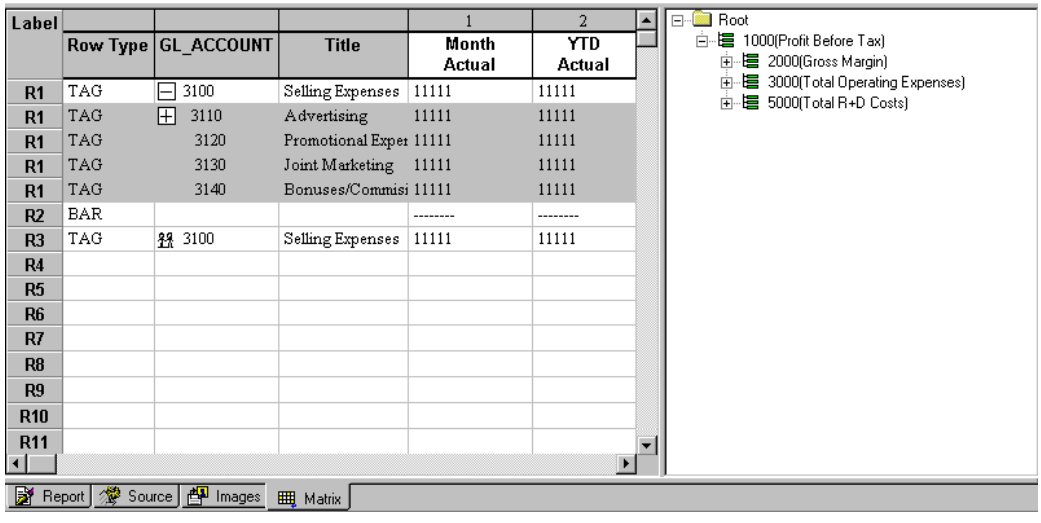
The Financial Report Painter now supports most of the row styling capabilities that are available in the WebFOCUS language. In addition, you can format an individual cell. Drill-down functionality is also supported at the cell level.

Formatting of columns, rows, and cells is managed through the familiar Report Painter Field Properties and Report Options Style tabs, which can now be accessed directly from the Financial Report Painter.

For details about the Financial Report Painter, see Chapter 10, *Creating Reports With the Financial Report Painter*, in *Creating Reports With Graphical Tools*. This information is also available in a single book called *Creating Financial Reports*.

Example Consolidating Data in a Hierarchy

The following matrix displays detail data for Selling Expenses, the parent level in a hierachy, and its children, followed by a summary line for all Selling Expenses.



It produces the following output:

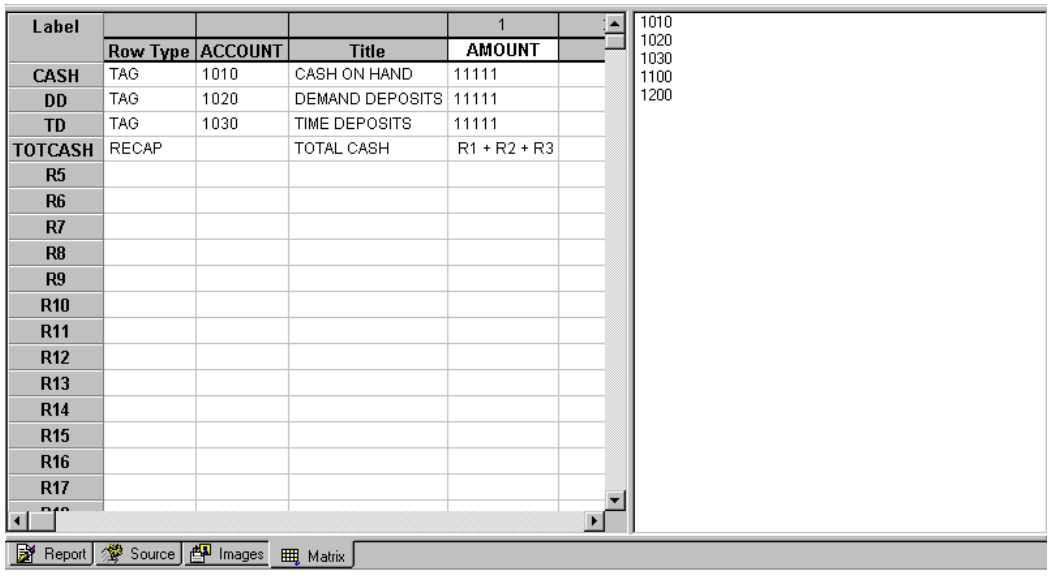
	Month Actual	YTD Actual
Selling Expenses	.	.
Advertising	.	.
TV/Radio	1,049,146.	2,954,342.
Print Media	244,589.	721,448.
Internet Advertising	9,542.	29,578.
Promotional Expenses	53,719.	151,732.
Joint Marketing	97,135.	289,799.
Bonuses/Commisions	100,188.	304,199.
Selling Expenses	1,554,319.	4,451,098.

What makes this reporting dynamic?

Suppose that you run this report weekly. If you ran the report today, and tomorrow another account were added as a child of 3100, next week's report would automatically reflect the change in the hierarchy, as well as changes to the data, based on the versatile parent/child declaration in the Master File. No adjustment would be needed to keep either the Master File or the report request up to date.

Example Formatting Rows and Cells

In this example, a border is placed around the calculated RECAP row, TOTAL CASH.



Label				1
	Row Type	ACCOUNT	Title	AMOUNT
CASH	TAG	1010	CASH ON HAND	11111
DD	TAG	1020	DEMAND DEPOSITS	11111
TD	TAG	1030	TIME DEPOSITS	11111
TOTCASH	RECAP		TOTAL CASH	R1 + R2 + R3
R5				
R6				
R7				
R8				
R9				
R10				
R11				
R12				
R13				
R14				
R15				
R16				
R17				

1010
1020
1030
1100
1200

Report | Source | Images | Matrix

Specifications are applied separately to the top/bottom and the left/right border lines. A heavy black border line is placed above and below the row and a thinner dotted line is placed to the left and right of each column in the row, generating the following output:

	AMOUNT
CASH ON HAND	8,784
DEMAND DEPOSITS	4,494
TIME DEPOSITS	7,961
TOTAL CASH	21,239

The next example hones in on a cell, drawing attention to the Total in the Amount column.

	AMOUNT
CASH ON HAND	8,784
DEMAND DEPOSIT	4,494
TIME DEPOSIT	7,961
TOTAL CASH	**21,239**

Adding PostScript Type 1 Fonts for PS and PDF Reports

You can add and configure PostScript Type 1 fonts to significantly expand your options for displaying and printing PS and PDF reports beyond those provided by the basic set of fonts distributed with Adobe Acrobat Reader (Courier, Helvetica, and Times). Thousands of PostScript fonts are available to make your reports more stylish and useful, including some that support symbols and bar codes.

When you execute a report and specify PDF or PS as your display format, the WebFOCUS Reporting Server retrieves the data and begins to format the report. Fonts and images specified in the StyleSheet must be available to the Reporting Server to create the output file. Through a simple process, you can customize your environment to take advantage of these fonts.

- First, copy the required font files to a location that is accessible by the WebFOCUS Reporting Server.
- Next, update the font map configuration files, which are already in the correct location, with specifications for the Type 1 fonts you wish to use.

Once these steps are completed, you can begin to identify the new font in your StyleSheet declarations.

Setting Paper Size for PostScript Reports

If you are sending a PostScript (PS) report to a printer from WebFOCUS or ReportCaster, you can select the size of the paper on which to print the output. The PostScript code that is generated works on PS printers that support Language Level 2 or higher. This capability is only supported for the PostScript format.

New Graph Type Options

The following graph styles are now supported when using the SET LOOKGRAPH command in a GRAPH request:

- **GANTT.** Provides a visual representation of project oriented time critical events. Gantt charts require six display fields and one sort field, in that order. Conditional styling and drill-down are not supported for GANTT charts.
- **POSITION.** Product position charts provide a visual representation of market share and growth versus revenue and measurement (past, present, future). Product position charts require a set of three display fields. A sort field is not required.
- **VWATERFL.** There are no field column limitations for vertical waterfall charts.
- **HWATERFL.** There are no field column limitations for horizontal waterfall charts.
- **PARETO.** Displays data following Pareto's 80:20 rule. Pareto charts require only one display field.
- **Multiple Y Axis charts.** Stacks charts in order to make it easier to read, analyze and manage them. You can have a MULTI3Y, MULTI4Y, or MULTI5Y chart, each with the corresponding number of Y-axis fields.

For more information, see Chapter 19, *Creating Graphs,* in *Creating Reports with WebFOCUS Language*.

Sending Graph Output Directly to a Printer

You can now send graph output directly to a printer. Add the following syntax to your GRAPH request:

```
ON GRAPH SET PRINT OFFLINE
```

This feature is introduced in WebFOCUS and Developer Studio.

EXL2K Enhancements

EXL2K format has been enhanced to support processing of formulas and the control of sheet names for the WebFOCUS report displayed in Excel 2000.

EXL2K FORMULA

WebFOCUS supports a new display format variation, EXL2K FORMULA.

If you display a report using EXL2K FORMULA, the resulting spreadsheet will contain Excel formulas that calculate and display the results of any type of summed information (such as column totals, row totals, sub-totals, and inter-row calculations (RECAPs) in FML reports).

Customization of Worksheet Tabs

By default, when you choose EXL2K as your display format, the report opens in an Excel 2000 worksheet, identified in a tab at the bottom of the spreadsheet as Sheet 1, Sheet2, and so on.

You can change the name of a Sheet tab to make it more descriptive by including the TITLETEXT attribute in the StyleSheet declaration.

This feature is supported in the WebFOCUS language, in Developer Studio, and in the HTML Report and Graph Assistants.

Note that the same syntax changes the browser title bar in an HTML report.

Including Multiple FOLD-LINE Clauses in a Request

You can now include up to 16 FOLD-LINE clauses in a request. Previously you could only include one FOLD-LINE clause per request.

You can take advantage of this feature when creating reports in WebFOCUS and Developer Studio.

Using Prefix Operators on Summary Values

You can now use prefix operators on fields referenced in the summary break options SUBTOTAL, SUB-TOTAL, RECOMPUTE, and SUMMARIZE.

You can take advantage of this feature when creating reports in WebFOCUS and Developer Studio.

Calculating Cumulative Normal Distribution

You can perform calculations on a standard normal distribution curve with the NORMSDST and NORMSINV functions:

- The NORMSDST function calculates the percentage of data values that are less than or equal to a normalized value. A normalized value is a point on the x-axis of a standard normal distribution curve. This is useful for determining percentiles in normally distributed data.
- The NORMSINV function finds the normalized value that forms the upper boundary of a percentile in a standard normal distribution curve.

The results of NORMSDST and NORMSINV are returned as double-precision and are accurate to six significant digits.

These functions are introduced in the WebFOCUS Reporting Server and can be generated with Developer Studio graphical tools.

For more information, see Chapter 11, *Numeric Functions,* in *WebFOCUS Using Functions*.

Minus Edit Format Option

The Minus Edit format option enables you to display a minus sign to the right of negative numeric data. You can define this option in a Master File as well as in a COMPUTE or DEFINE request.

Syntax How to Display Minus Signs

Format	Data	Display
I2-	-21	21-
D7-	-6148	6148-
F7.2-	-8878	8878.00-

Example Describing the Minus Edit Format Option

In the Master File:

```
FIELDNAME=SHIP_COST,SCOST,D7-,$
```

In a FOCEXEC:

```
DEFINE FILE MOVIES
 MDISC/D7.2 = 7.5;
END
TABLE FILE MOVIES
 SUM COMPUTE GROSS_PROFIT = LISTPR - WHOLESALEPR;
             NET_PROFIT/D12.2- = GROSS_PROFIT - MDISC;
 BY  CATEGORY
 PRINT  MDISC AS 'MEMBER,DISCOUNT'
        WHOLESALEPR AS 'WHOLESALE,PRICE'
        LISTPR AS 'LIST,PRICE'
 IF CATEGORY EQ 'ACTION' OR 'MUSICALS' OR 'DRAMA' OR 'SCI/FI';
 IF RECORDLIMIT EQ 10
END
```

The output is:

CATEGORY	GROSS_PROFIT	NET_PROFIT	MEMBER DISCOUNT	WHOLESALE PRICE	LIST PRICE
ACTION	8.96	1.46	7.50	10.99	19.95
DRAMA	9.98	2.48	7.50	10.00	19.98
MUSICALS	16.97	5.53-	7.50	13.99	19.98
			7.50	13.99	19.98
			7.50	9.99	14.98
SCI/FI	35.32	2.18-	7.50	14.99	19.98
			7.50	14.55	19.98
			7.50	13.99	19.95
			7.50	16.00	24.95
			7.50	19.99	29.98

Note: Results of the Minus Edit format option can be seen in the Net_Profit column.

Reference **Usage Notes**

- This feature does not perform calculations intended to derive a negative number in the data. It is only a format option that allows numeric data to be displayed with a minus sign.
- A blank space displays to the right side of the data when the data is positive in value.
- The Minus Edit format option is not supported with format options B, E, R, T, DMY, MDY, and YMD.
- Placing a minus sign on the right side of data fields in a CRTFORM results in the display of an error message.

Amper Auto-Prompting in CGI/Servlet

The amper auto-prompting feature enables you to prompt users for the amper variables necessary to execute a procedure. With this feature, you can also design the form that will prompt for the amper variables.

For more information, see Chapter 8, *Coding a Using Interface*, in *Developing Reporting Applications*.

CHAPTER 2

Security and Environment Considerations

Topic:

- WebFOCUS Client Security Enhancements
- Search Path Setting for the Reporting Server
- Accessibility Support
- National Language Support for International Computing
- Configuring NLS Using the Web Console
- Configuring the Distribution Server for NLS
- Dynamic Language Switch

These topics describe WebFOCUS features that pertain to client and server behavior, accessibility support, and National Language Support (NLS).

WebFOCUS Client Security Enhancements

WebFOCUS Version 5 Release 2 includes the following security enhancements to the WebFOCUS Client:

- **Multiple server cookie support.** The WebFOCUS Client retains credentials for each WebFOCUS Reporting Server to which a connection is made.
- **Dynamic server signon.** When a request is issued from the WebFOCUS Client to the WebFOCUS Reporting Server, and an invalid credentials message is sent back to the WebFOCUS Client, the WebFOCUS Client responds with a WF_SIGNON form that prompts for the user ID (IBIC_user) and password (IBIC_pass) for the server that issued the message. Setting WF_AUTOSIGNON to N in cgivars.wfs disables this feature.

Search Path Setting for the Reporting Server

The Application Namespace feature (introduced in WebFOCUS Version 4 Release 3.1) is now enabled for all servers by default, except for OS/390® (MVS), where it is available using an optional service block. The setting APP ENABLE in your server profile activates the feature, which provides benefits to developers for organizing their application resources on the server. A migration feature is provided on the iWay Server Console, to convert your old server profile to the new syntax. For more information, see the *iWay Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390, and z/OS* manual.

Customers that do not wish to use the new Application Namespace feature can revert back to the traditional Cataloged Path (EDAPATH) configuration by setting APP DISABLE in the server's profile and configuring additional platform-specific settings. The Cataloged Path configuration is now stabilized in Release 5.2 and will not be enhanced. It is supported for migrated applications, but there are limitations. The WebFOCUS synonym wizard tools can no longer create synonyms against a server in Cataloged Path mode, except when using OS/390 -based (MVS) servers where it is still supported. For more information, see the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Application Namespace offers several advantages over the traditional Cataloged Path behavior:

- A single WebFOCUS environment can more easily support multiple applications because the resources for each are isolated in distinct directories that can be specified by the application's interface. Conflicts between like named files in different directories are avoided.
- Developers can now create and manage these application directories from all of our interface development tools, including Developer Studio and Managed Reporting.
- Developer Studio's local development paradigm for self-service applications is based on the Application Namespace feature. It organizes, creates, and deploys application resources based on this feature.
- Developers can more easily support any WebFOCUS application because work-in-process files can be placed into a test application that is searched before the production application resources.

For more information, see the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Accessibility Support

WebFOCUS output provides support for products such as screen readers that enable handicapped accessibility. This is accomplished using these features:

- A SET command, which activates accessibility changes to WebFOCUS HTML output code.
- A SUMMARY attribute in a WebFOCUS StyleSheet, which describes information contained in a report or graph.
- An ALT StyleSheet attribute in a drill-down report or graph, which describes the detail information you can select.

An ALT StyleSheet attribute describes an image embedded in a report.

National Language Support for International Computing

National Language Support (NLS) ensures that WebFOCUS correctly processes and displays all national characters embedded in any data source. It allows you to represent data in the formatting that corresponds to the currently selected user locale. WebFOCUS now provides:

- Dynamic configuration for NLS on Windows NT/2000, UNIX, and OS/390 through the Web Console. For more information, see *Configuring NLS Using the Web Console* on page 2-5.
- Dynamic configuration of the Distribution Server for NLS through the Distribution Server configuration tool, accessible from the ReportCaster Development and Administration Interface. For more information, see *Configuring the Distribution Server for NLS* on page 2-11.
- Updated trace information. You can now view the current Server Code Page and language information in your edaprint.log file. For more information, see the *National Language Support for International Computing* manual.
- Inclusion of all supported localized versions in a single installation procedure. A new dialog box prompts you to select one or more languages to install. For more information, see *Dynamic Language Switch* on page 2-17.
- For localized versions, a toggle feature that enables an individual user to switch languages from any WebFOCUS logon page, such as the Managed Reporting logon page. The user can switch to any language selected during the installation procedure. Localized text in the user interface (including the logon page) then appears in the selected language. For more information, see *Dynamic Language Switch* on page 2-17 .

Configuring NLS Using the Web Console

WebFOCUS Version 5 Release 2 allows you to configure the WebFOCUS Reporting Server and the WebFOCUS Client for National Language Support (NLS) on Windows NT/2000, UNIX, and OS/390 using the Web Console.

You must have administrator privileges to configure for NLS using the Web Console. Before using the console, make sure the WebFOCUS Reporting Server is running with security on. If security is off, you cannot access the NLS option on the console.

You must perform the following steps:

- Step 1. Log in to the Web Console with administrator privileges.
- Step 2. Select a code page for the server, using the NLS Configuration Wizard.
- Step 3 (optional). Select a code page for the client.

The sample windows in this section are run on Windows NT. They look similar on UNIX and OS/390.

Step 1. Log in to the Web Console

The Web Console provides a single consistent browser interface for administration of the WebFOCUS Reporting Server on Windows NT/2000, UNIX, and OS/390. It enables you to perform many setup, management, and diagnostic tasks, including configuration of the server and client for NLS.

For more information on Web Console features, see your iWay Server configuration and operations documentation.

Procedure How to Log In to the Web Console

1. Access the Web Console from a Web browser by typing the machine name and port number that points to the server. For example:

   ```
   http://localhost:8121
   ```

   The console's main window opens.

2. Click *Login as* on the left side of the window to log in to the console with administrator privileges., The console login window opens.

3. In the User ID field, enter your administrator ID.

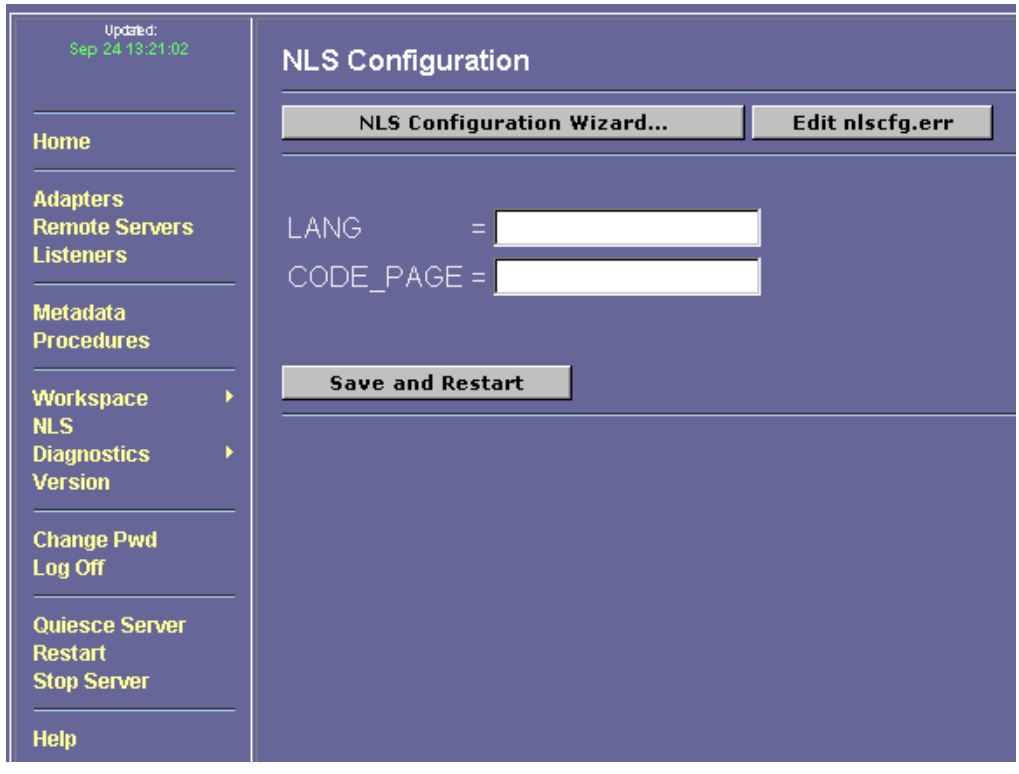
   In the Password field, enter your password.

   Click *login*.

   The console window, with full administration features, opens.

4. Click *NLS* on the left side of the window.

The NLS Configuration window opens:



Reference Default NLS Values

The following table lists the default values for NLS.

Operating System	Code Page Value
Windows	437
UNIX	437
OS/390 and z/OS	037

American English (AMENGLISH) is always the default language used.

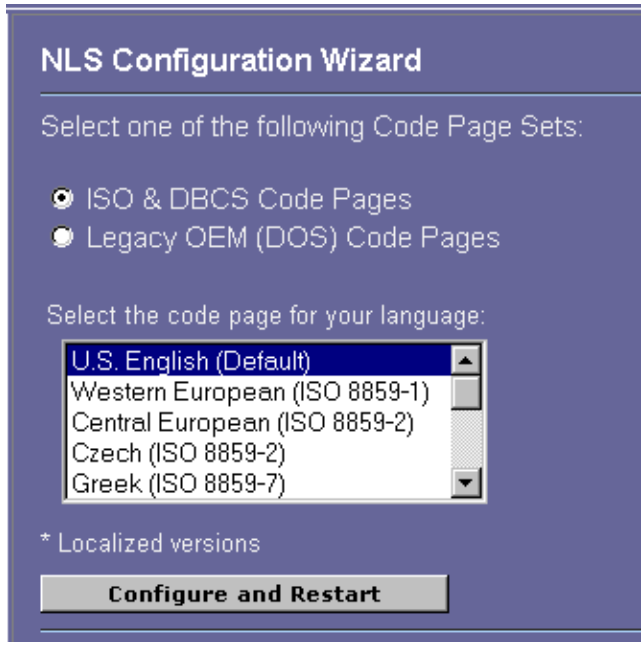
Step 2. Select a Code Page for the Server

A code page is the computer representation of a character set. Each written symbol in a language is assigned a unique number, usually expressed in hexadecimal notation.

A code page has a unique identification number.

1. If you know the LANG and CODE_PAGE parameter values, you may enter them here. To change the default value for the language and code page, click *NLS Configuration Wizard* on the NLS Configuration window.

   The NLS Configuration Wizard opens:



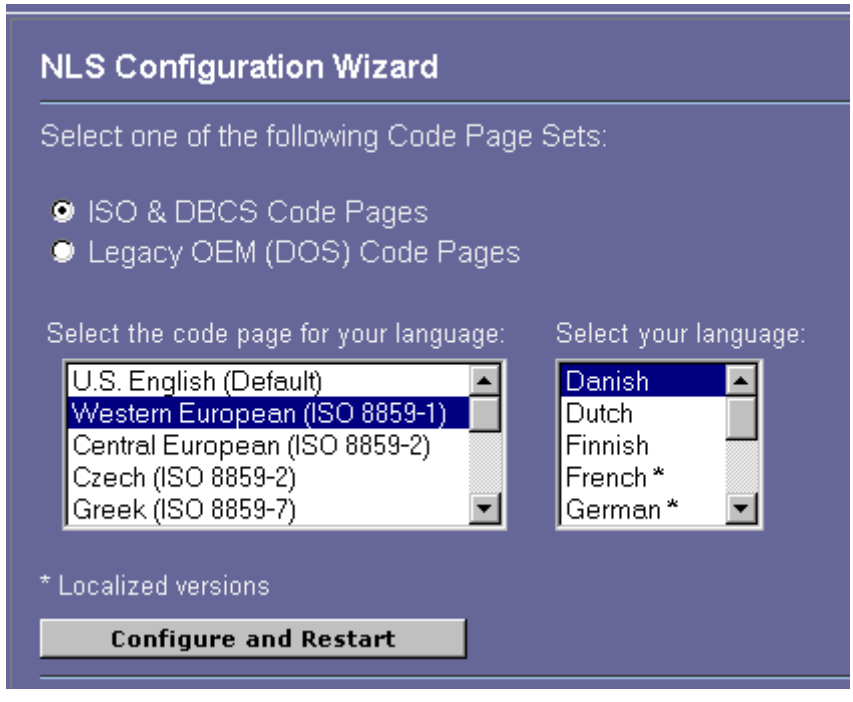
2. Select one of the following code page sets :

   - ISO and DBCS Code Pages (default). These are standard code pages.
   - Legacy OEM (DOS) Code Pages. These are code pages used before the introduction of Windows technology. They are not appropriate for current Windows applications but are supplied for backward compatibility.

3. **If you select *ISO and DBCS Code Pages*:**, Use the list box to choose the language of the data source read by the WebFOCUS Reporting Server. The NLS Configuration Wizard will configure the server for that language and the corresponding code page.

   An asterisk to the right of a language—for example, French*—means that translated error messages are available and the WebFOCUS user interface will be fully displayed in that language once you configure and restart the server.

   a. If you select *Western European (ISO 8859-1)*, you are prompted for the European language in which data is stored:



   Click the desired Western European language from the list box on the right.

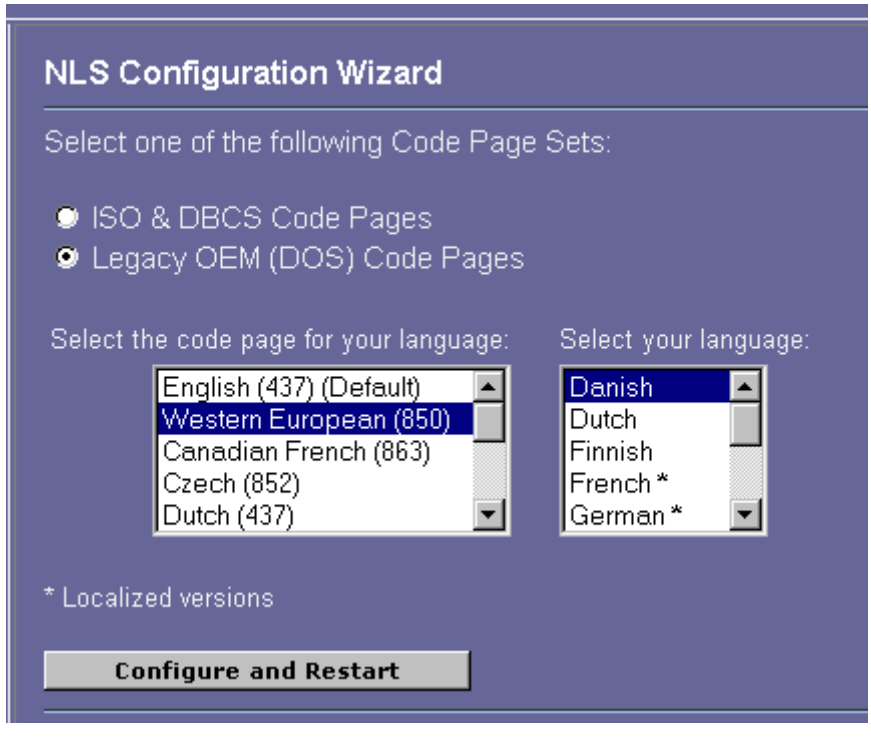
   b. Go to step 5.

4. **If you select *Legacy OEM (DOS) Code Pages:***

   a. Use the list box to choose the language of the data source read by the WebFOCUS Reporting Server. The NLS Configuration Wizard will configure the server for that language and the corresponding code page.

   b. If you select *Western European (850)* or *Nordic (865)*, you are prompted for the European language in which data is stored.

   The following sample window shows the right list box that is displayed when Western European (850) is selected from the left list box:



   Click the desired Western European or Nordic language from the list box on the right.

   An asterisk to the right of a language—for example, French*—means that translated error messages are available and the WebFOCUS user interface will be fully displayed in that language once you configure and restart the server.

   c. Go to step 5.

5. After making your selections, click *Configure and Restart*. A message indicates that the server is restarting. You then return to the NLS Configuration Wizard window.

   If the client code page is the same as the server code page, configuration is complete. By default the configuration program generates the appropriate corresponding client code page settings and stores them on the server. You can now perform another task from the Web Console, or close it.

   To configure the client for NLS, go to the next step.

Step 3 (optional). Select a Code Page for the Client

1. Open the WebFOCUS Client Web Console.
2. Click *NLS* on the left side of the console to open the NLS Configuration window. On that window, click *Edit nlscfg.err*.

   Tip: Click *Refresh From the Disk!* to retrieve the most recent NLS settings for the client as stored on disk.
3. Select the ISO or DBCS Code Pages that correspond to the server Code Page that is selected. For example:

Server Code Page	Client Code Page
437 OEM	137 or UNICODE UTF8
137 ISO	137 or UNICODE UTF8
Japanese (Shift-JIS)	Japanese (Shift-JIS)

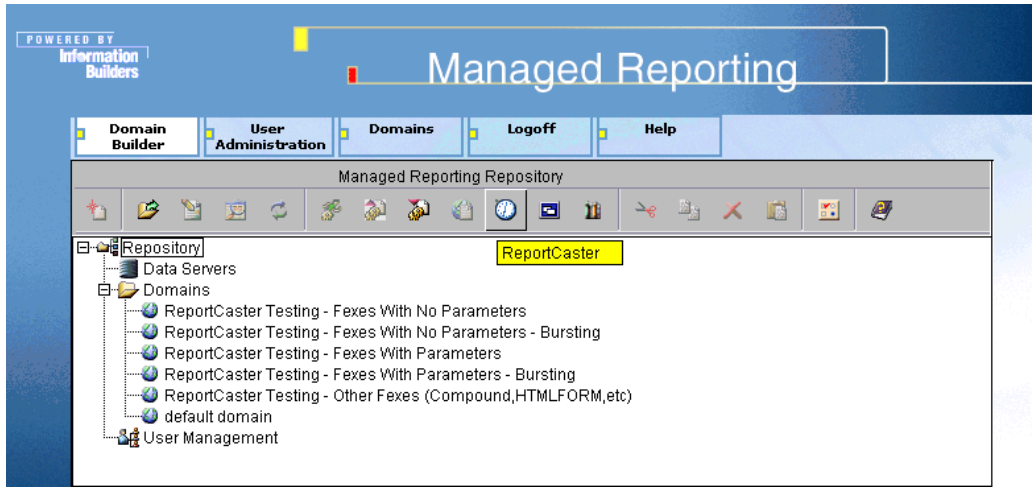
   For more information on client configuration, see the *National Language Support for International Computing* manual.
4. Click *Save and Restart*. A message indicates that the server is restarting and you are returned to the Edit NLS Configuration File window. Client configuration is now complete. You can now perform another task from the Web Console, or close it.

Configuring the Distribution Server for NLS

In WebFOCUS Version 5 Release 2, you can use the ReportCaster User Management and Configuration interface to configure the Distribution Server for NLS.

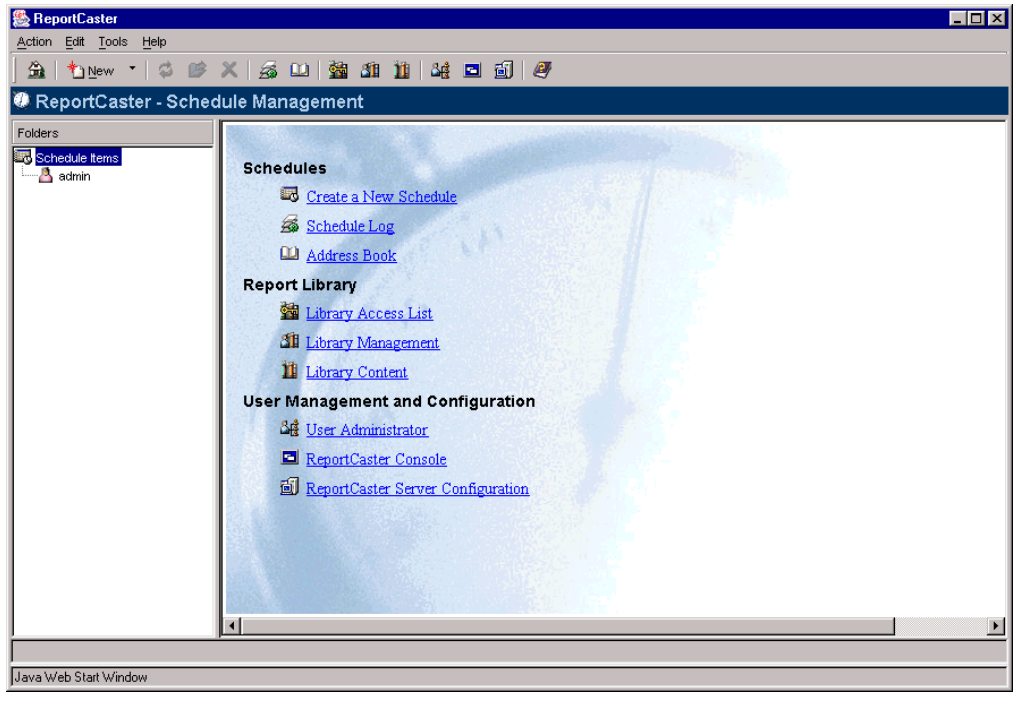
Note: Initial configuration of NLS for WebFOCUS (including the Distribution Server) occurs when you are installing WebFOCUS and ReportCaster. Using the ReportCaster User Management and Configuration interface is useful if you wish to change Code Page values without reinstalling the product. For more information on configuring NLS during installation, see the WebFOCUS and ReportCaster Installation and Configuration manual for your platform.

1. Launch WebFOCUS Managed Reporting.



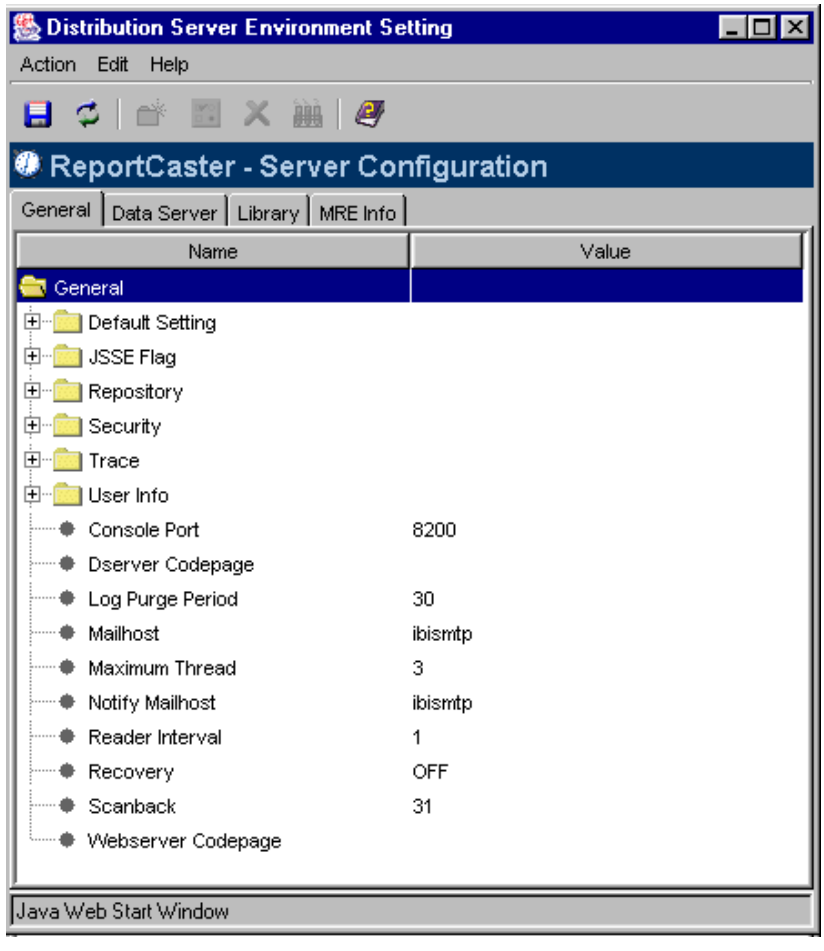
2. Click the *ReportCaster*  icon.

The ReportCaster main window opens:



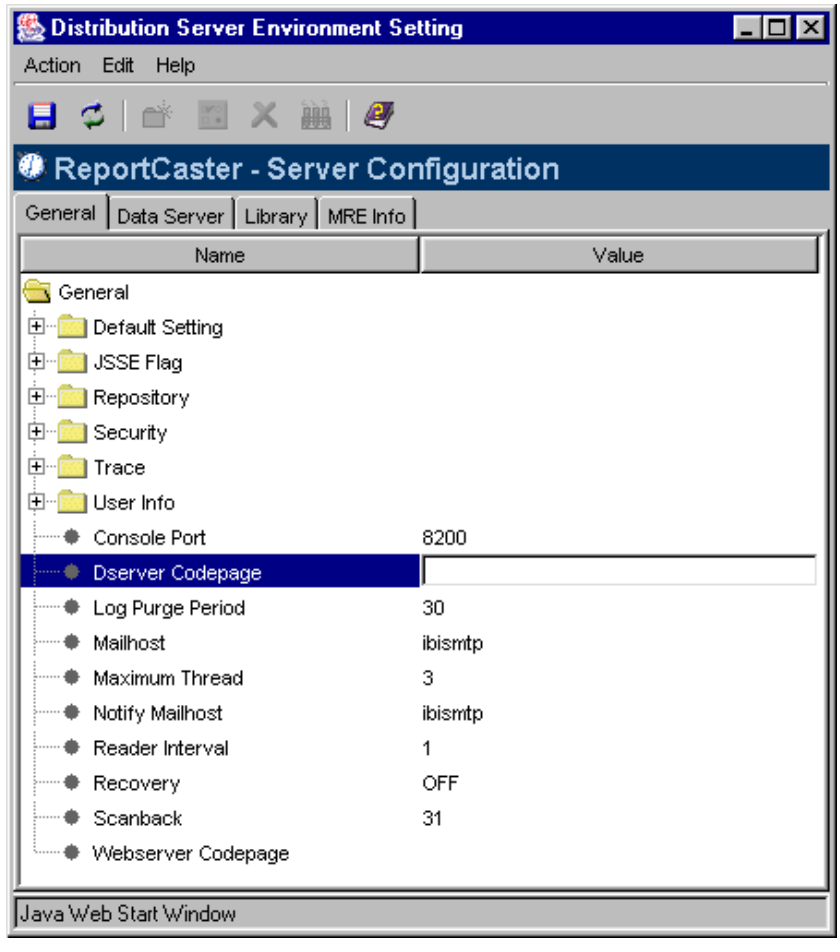
3. In the User Management and configuration section, click *ReportCaster Server Configuration*.

The Distribution Server Environment Setting window opens:



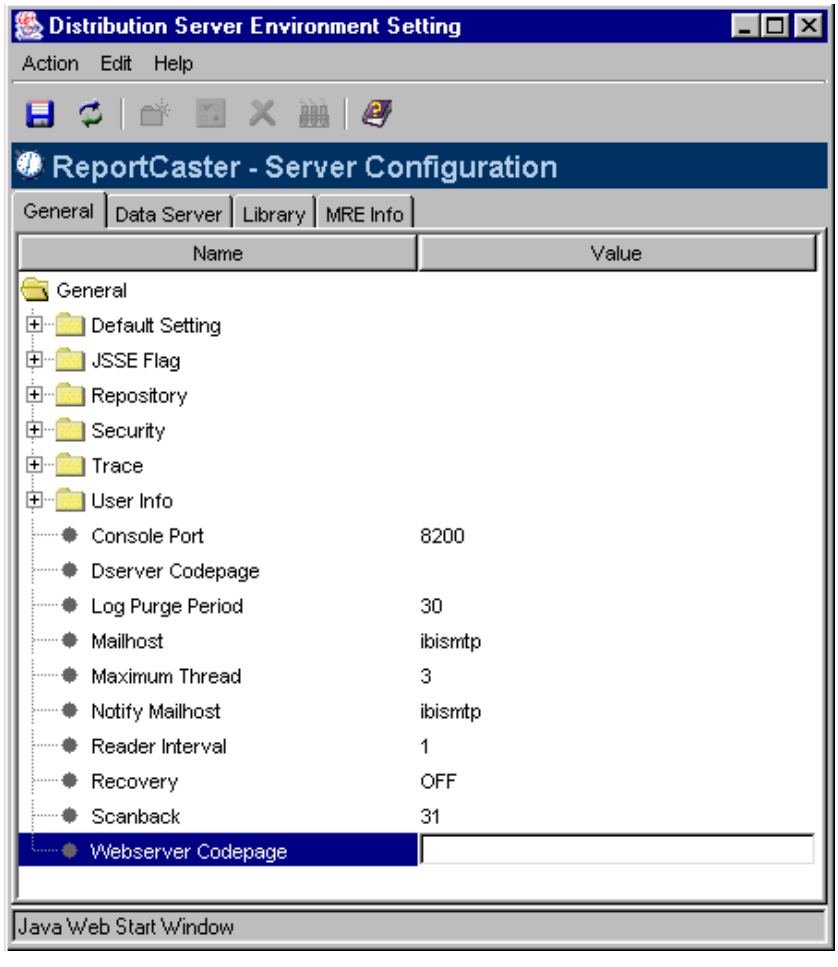
4. Select the *Dserver Codepage* setting and specify a value.

This is the Code Page of the operating system where the Distribution Server resides. For more information on Code Page values, see the *National Language Support for International Computing* manual.

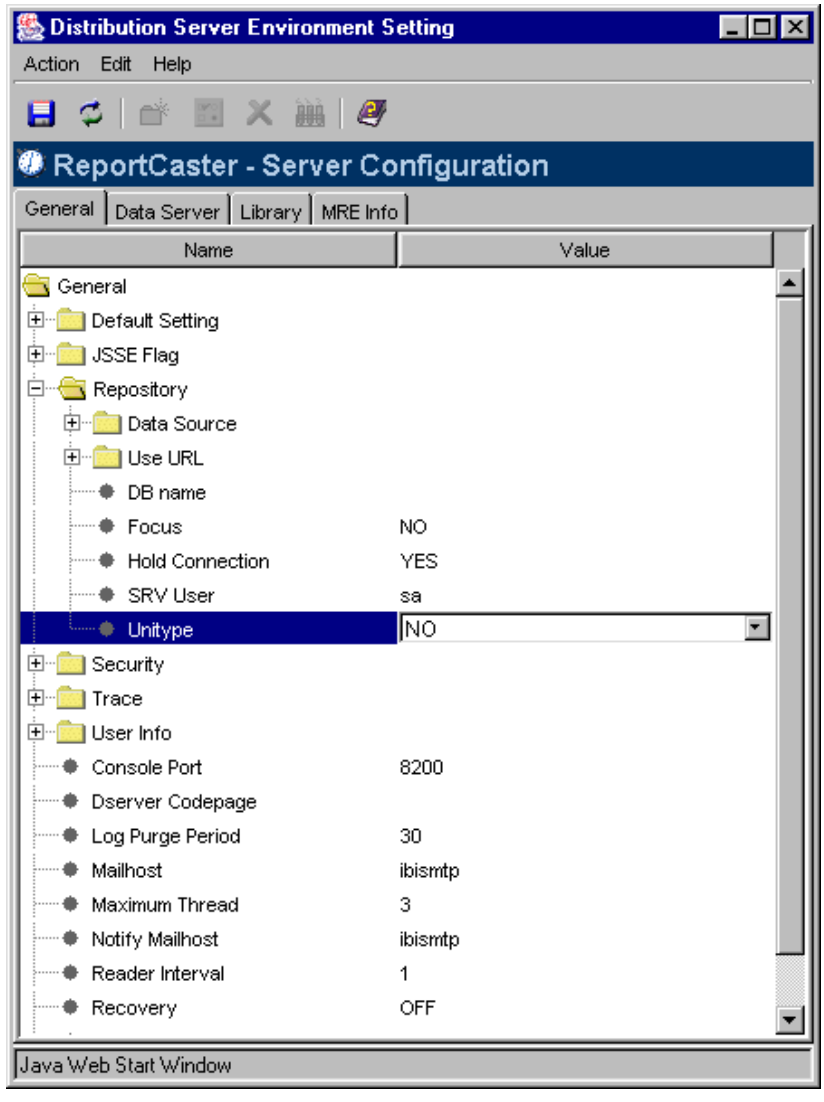


5. Select the *Webserver Codepage* setting and specify a value.

This is the Code Page of the operating system where the Web Server resides. This value must be the language equivalent of the Distribution Server's Code Page. For more information on Code Page values, see the *National Language Support for International Computing* manual.



6. Click the *Repository* folder and select the *Unitype* setting.



7. From the drop-down list select either *YES* or *NO*.

   This setting activates Unitype for the Repository.

8. Once you have configured the Distribution Server for NLS click the *Save* icon.

Dynamic Language Switch

In WebFOCUS Version 5 Release 2, all supported languages are incorporated into a single installation. As a result, you can dynamically switch between languages used throughout the user interface without affecting other users.

The installation program uses the same language specified in the Operating System's Regional Settings. If the installation program doesn't have the language available, English is used as the default language.

For WebFOCUS Version 5 Release 2, in addition to English, you can install the following languages:

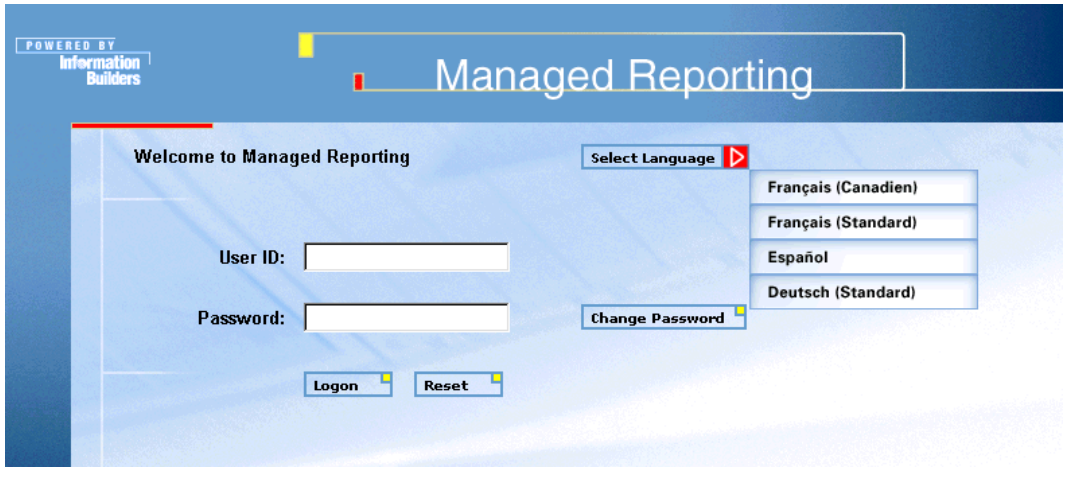
- French (Canadian)
- French (Standard)
- German (Austrian)
- German (Standard)
- Hebrew
- Japanese
- Spanish

Using the Dynamic Language Switch Feature

During installation, the Language Selection dialog box opens after you select the WebFOCUS components you want to install:

Select the languages you want to install and click *Next*. These languages can be switched dynamically from all logon pages.

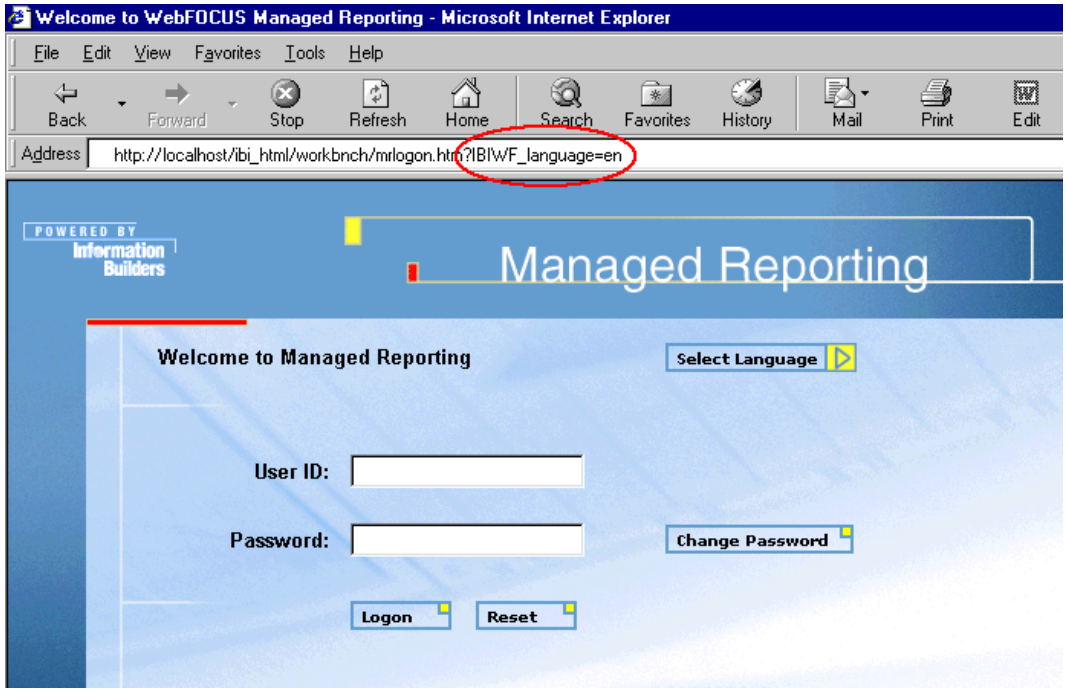
Once installation is complete, every logon page has a link with the languages you installed:



The default language that displays is the Operating System language specified in the Regional Settings. Once a language is selected, the user interface automatically switches to that language.

The language value is saved in a cookie, which allows other WebFOCUS components to display the selected language. Once the cookie is set, this value becomes the default language for all other browser sessions until a different language is selected.

Note: For self-service applications where a user logon is not required, you can pass the language parameter directly to the URL:



For example,

`http://hostname/application_address?IBIWF_language=xx`

where:

hostname
: Is the location where WebFOCUS is installed.

application_address
: Is the startup location of your application.

IBIWF_language
: Is a required function call.

xx
: Is the two-letter value for a valid installed language.

Reference Values for Supported Languages

The following table lists the two-letter symbols that you can use for the IBIWF_language function call.

Language	Value
English	en
French (Canadian)	fc
French (Standard)	fr
German (Austrian)	at
German (Standard)	de
Hebrew	he
Spanish	es
Japanese	ja

Directory Structures

Based on the languages you selected during installation, the setup program creates the corresponding language folders under the ibi_html\javaassist\intl directory, which contains all the files needed to create a localized user interface. These files consist of stringtables and .gif files.

For more information on customizing translation and the dynamic switch feature, see the *National Language Support for International Computing* manual.

Editing Language Values

The ibimultilanguage.js file, which is located in the ibi_html\javaassist\intl\ directory, holds the values of the languages you selected in the Language Selection dialog box. For example:

```
var multiLanguage = 1;

var ArrayofLanguage = [
     ["en","English"],
     ["fc","French Canadian"],
     ["fr","French Standard"],
     ["es","Spanish"],
     ["de","German"],
     ["au","Austrian"],
     ["he","Hebrew"],
     ["ja","Japanese"]
```

When more than one language is selected during installation, the value of the multiLanguage variable is true (1) and therefore a language selection link displays on all logon pages. If only one language is selected, then the value is false (0); no link will be present and the user interface uses the default language. The administrator can make changes to the ibimultilanguage.js file.

All languages declared under the ArrayofLanguage variable populate the dynamic language link. The first value is the default in the event that the browser language is not one of the languages available.

CHAPTER 3

Managed Reporting

The following topics describe new features that enhance Managed Reporting, including User Administration Services, the Applet environment, and the introduction of the migration and extract utilities.

Topics:

- User Administrator Enhancements
- Dashboard Enhancements
- Creating Multiple Content Pages in Dashboard
- Creating a Group View in Dashboard
- Creating a Unique Customization for Each Public View in Dashboard
- Removing the Banner in Dashboard
- Customizing Content Block Layout in Dashboard
- Saving Your Most Recently Used Reports in Dashboard
- Creating a My Favorite Reports List in Dashboard
- Creating Custom Toolbars in Dashboard
- Using a Standalone Domain/Role Tree in Dashboard
- Optionally Displaying Frame Separators in Dashboard
- Hiding the Display of Content Blocks in Dashboard
- Default Public User in Dashboard
- Domain Search Enhancements in Dashboard
- User Options Settings in Dashboard
- Access to Multiple WebFOCUS Servers
- Managed Reporting Enhancements
- Deferred Receipt Enhancements
- Managed Reporting Migration Utility
- Managed Reporting Change Management Enhancements
- Managed Reporting Repository Extract Utility

User Administrator Enhancements

You can now create a new user and assign the user's properties and password all in one step.

The User Administration User Properties window has been reorganized to be more intuitive and accommodate several new properties.

A new user privilege, User, represents the entry UAS User that can only run reports and not invoke Report or Graph Assistant, or save output from the OLAP slice-n-dice options. In addition, the Java User privilege has been renamed as Analytical User.

The public user and group required for Business Intelligence Dashboard are defined in the default Managed Reporting Repository.

Two new capabilities have been created as follows:

- The ReportCaster Administrator is enabled when ReportCaster is installed and the user has Managed Reporting Administrator privileges.
- The Report Library option is available when the ReportCaster and Report Library are installed.

The E-Mail Address field is a new optional property of a user. This property is used by the Push Notification through Email feature of the Report Library.

For more information, see Chapter 6, *Creating Users and Groups*, and Chapter 7, *User Management,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Dashboard Enhancements

Enhancements to Dashboard include the following:

- Creating a Group View in Dashboard
- Creating a Unique Customization for Each Public View in Dashboard
- Removing the Banner in Dashboard
- Customizing Content Block Layout in Dashboard
- Saving Your Most Recently Used Reports in Dashboard
- Creating a My Favorite Reports List in Dashboard
- Creating Custom Toolbars in Dashboard
- Default Public User in Dashboard
- Domain Search Enhancements in Dashboard

Information on each of these features is described in more detail in individual topics.

Creating Multiple Content Pages in Dashboard

You can now create multiple content pages in your Dashboard view. In previous releases, you were limited to only one content page.

Dashboard administrators, as well as authenticated users, can use this feature to increase the amount of space available to display content in the Dashboard and to help organize content.

For more information, see Chapter 3, *Creating a Content Block*, in the *WebFOCUS Managed Reporting End User's Manual*.

Procedure How to Create Content Pages

1. From the Content window, click *Add Page*.
2. Enter the tab name in the Page Description text box.
3. Click *Update*.

   When a page is added, it is added as the last page. You can rearrange the order of the content pages using the Move Left, Move Right, or Set Default buttons. The Set Default button promotes the current page to the first page.

Creating a Group View in Dashboard

You can now create a different view of the Dashboard for each user group. These views are known as group views and are based on Managed Reporting (MR) repository groups. For each group view, you can select a banner and customize the colors, composition, and content.

Dashboard administrators can use this feature to create different Dashboard views for MR repository groups.

For more information, see Chapter 8, *Creating Public and Group Views,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Procedure How to Add a Group View

1. Open the View Builder.
2. Click *Group Views*.
3. Click *Add*. An input form displays at the bottom of the Group Views window.
4. Select a Group Name from the drop-down list.
5. Enter a description for the group view.
6. Click *Submit*. The new view is added to the Group Views list.

For more information, see Chapter 8, *Creating Public and Group Views,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Creating a Unique Customization for Each Public View in Dashboard

Dashboard administrators can now create different customizations for each public view in the Dashboard. This enables you to select a different look, composition, and message of the day for each public view. Previously you could only have one customization that applied to all public views.

For more information, see Chapter 9, *Customizing Dashboard,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Removing the Banner in Dashboard

You can now create your Dashboard view without a banner. Previously, if you wanted to remove the banner, you had to manually edit the profile.prf file and change the size of the banner so it wouldn't be visible in the Dashboard.

There is a check box on the Composition page in the View Builder that you can select if you don't want a banner in your Dashboard view.

Dashboard administrators can use this feature when customizing Dashboard views using the View Builder.

Dashboard users can take advantage of these enhancements when searching for reports, folders, Web pages, or Web addresses from the Dashboard.

Procedure How to Remove the Banner in Dashboard

1. From the View Builder, click *Composition*.
2. Deselect the *Check to use Banner* check box.
3. Click *Preview*.
4. Click *Save*.

Customizing Content Block Layout in Dashboard

You now have more control over how content blocks display in the Dashboard. Previously, you were limited to one or two columns and you could not control how much space each column would take in the Dashboard. Now, you can add as many columns as you need and, using a percentage, you can specify the width of each column.

Dashboard administrators as well as authenticated users can use these enhancements to help design the layout of content blocks in their Dashboard view.

For more information, see Chapter 3, *Creating a Content Block*, in the *WebFOCUS Managed Reporting End User's Manual*.

Saving Your Most Recently Used Reports in Dashboard

Dashboard now automatically creates a list of the last 10 reports you have viewed. You can access the list from the Recent link in the banner. The Recent link is included for all authenticated users.

You can clear your list of recently used reports with the Remove All button.

For more information, see Chapter 2, *Using Dashboard*, in the *WebFOCUS Managed Reporting End User's Manual*.

Creating a My Favorite Reports List in Dashboard

There is an Add to Favorites option on the pop-up menu that opens when a user clicks a report in a Domain Tree, Role Tree, list block, or folder block.

You can also add reports to the My Favorites list when you are performing a domain search.

For more information, see Chapter 2, *Using Dashboard*, in the *WebFOCUS Managed Reporting End User's Manual*.

Creating Custom Toolbars in Dashboard

Dashboard administrators can insert a custom toolbar in the Dashboard that contains any type of link that the Internet or intranet supports, such as Web sites, applications, documents, and other tools. When a user clicks one of the links, a new browser window opens and displays the contents.

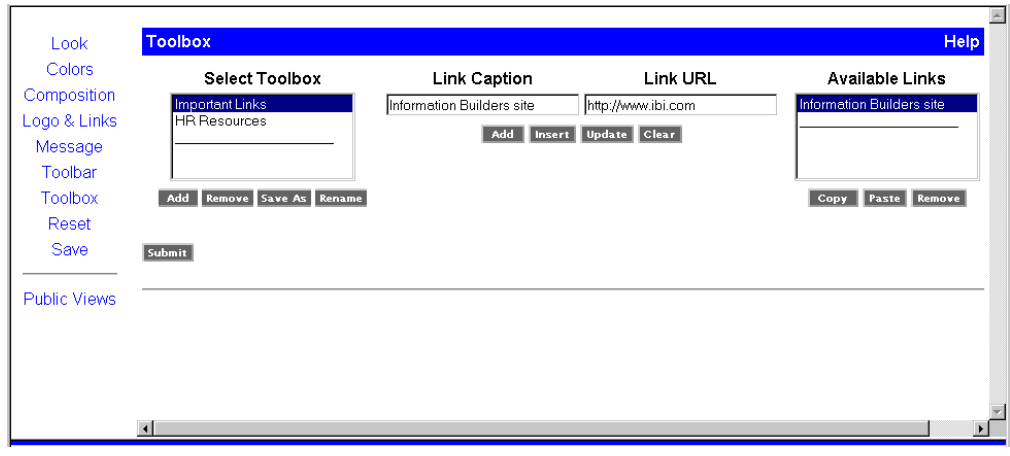
Toolbars can be placed in various positions on the Dashboard, and you can select different colors for the toolbars so they conform with your Dashboard view.

Because toolbars are created from items in your toolbox(es), you must create a toolbox before you create a toolbar. You can create as many toolboxes as you require and each toolbox can contain an unlimited number of items.

For more information, see Chapter 9, *Customizing Dashboard,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Procedure How to Create a Toolbox

1. From the View Builder, click Toolbox. The Toolbox window opens.



2. In the Select Toolbox field, click *Add*.
3. Enter a name for the toolbox in the Explorer User Prompt dialog box and click *OK*.
4. In the Link Caption text box, enter the name for the link. This is the text that will display in the toolbar.
5. In the Link URL text box, enter the URL for the link in the format:

   `http://`***`websitename`***

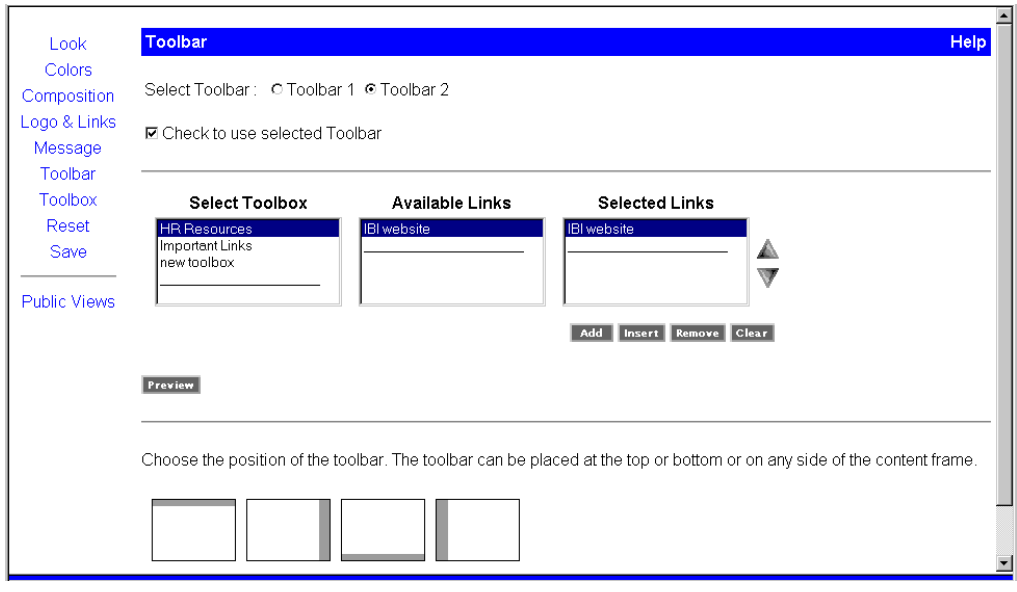
   For example, http://www.informationbuilders.com.
6. Click *Insert*. The link is added to the Available Links box.
7. Repeat steps 4-6 to add additional items to the toolbox. The number of items you can put in a toolbox is unlimited.
8. Click *Submit*.

Procedure How to Copy a Toolbox

1. From the View Builder, click *Toolbox*. The Toolbox window opens.
2. Highlight a toolbox from the Select Toolbox list and click *Save As*.
3. Enter a name for the new toolbox.
4. Click *OK*.

Procedure How to Create a Toolbar

1. From the View Builder, click *Toolbar*. The Toolbar window opens.



2. Click the *Toolbar 1* or *Toolbar 2* radio button.
3. Highlight a toolbox in the Select Toolbox list.
4. From the Available Links list, highlight a link and click *Add*.
5. Repeat steps 3 and 4 until your toolbar is complete.
6. Use the up and down arrows to position the order of the selected links.
7. Select the toolbar position (top, bottom, left or right) by clicking the appropriate image at the bottom of the Toolbar window (you may need to scroll down to view this).
8. Click *Save* to save your changes.

Using a Standalone Domain/Role Tree in Dashboard

To provide more space on your Dashboard view while still allowing users access to the Domain/Role Tree, you can use insert a stand-alone Domain/Role Tree in your Dashboard view. The stand-alone Domain/Role Tree can be accessed from a link in the banner named Tree.

Dashboard administrators can use this feature when they want to provide users with access to the Domain/Role Tree, but not have it display in the Dashboard view.

For more information, see Chapter 9, *Customizing Dashboard,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Optionally Displaying Frame Separators in Dashboard

You can now choose to keep or omit frame separators from the Dashboard view. If you omit frame separators, a seamless look is created between the banner and the sidebar (Domain/Role Tree).

For more information, see Chapter 9, *Customizing Dashboard,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Hiding the Display of Content Blocks in Dashboard

You can hide the display of a content block from the Dashboard view by selecting the deactivate option when adding or editing a content block.

This is useful when you want to temporarily remove a content block from a Dashboard view.

For more information, see Chapter 11, *Creating a Content Block,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Procedure How to Temporarily Remove a Content Block

1. From the Content window, select the content page where the content block is located.
2. Click the check box next to the block you wish to edit.
3. Click *Edit Block*. The Edit Block window opens.
4. Select the *Check to Inactivate Block* box.
5. Click *Save*.

Default Public User in Dashboard

Prior to the Dashboard 5.2 release, you were required to create a public user in MRE before customizing your Dashboard view. Now the public user is automatically created in MRE, so you do not need to create a public user for new installations of the Dashboard.

For more information, see Chapter 9, *Customizing Dashboard,* in the *WebFOCUS Managed Reporting Development and Administration Web Browser Edition*.

Domain Search Enhancements in Dashboard

When performing a domain search in the Dashboard, you can now search across domains based on modification dates for a file. For example, you can search for documents that were modified between certain dates, or since a specified date.

The format of the date and time shown in the Domain Search Results window, and in the Modified since panel, are based on your system setting.

For more information, see Chapter 2, *Using Dashboard*, in the *WebFOCUS Managed Reporting End User's Manual*.

User Options Settings in Dashboard

There is now a link in the Dashboard banner called Options that allows you to set certain user options. Some of the options available include:

- Selecting the tool type (HTML or Java applet) for Report Assistant and Graph Assistant.
- Controlling report execution windows.
- Selecting the maximum number of recently used reports.
- Selecting how menus are displayed.
- Selecting how folders in a domain are displayed.

For more information, see Chapter 2, *Using Dashboard*, in the *WebFOCUS Managed Reporting End User's Manual*.

Access to Multiple WebFOCUS Servers

You can now access multiple WebFOCUS Reporting Servers once you have logged on to Managed Reporting. This is made possible through the new APP ENABLE option in your server profile.

For more information, see Chapter 2, *Security and Environment Considerations*.

Managed Reporting Enhancements

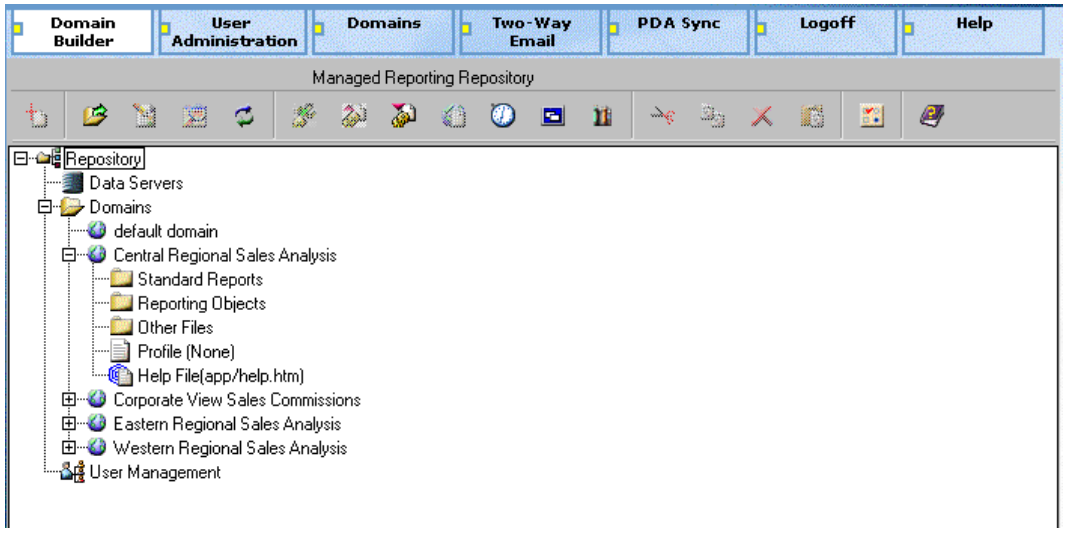
Managed Reporting enhancements include the following:

- Updated Managed Reporting Presentation
- Reporting Object Component Validation During Development
- New Create Synonym Behavior

Updated Managed Reporting Presentation

A new look has been designed for WebFOCUS and Information Builders products consistent with the new ReportCaster and HTML Report Assistant. The windows are much less cluttered, and you can specify placement of the tabs across the top of the page or vertically on the left side.

The graphic below shows the appearance of Managed Reporting with tabs placed in the horizontal position.



Reporting Object Component Validation During Development

Reporting Object components are now validated prior to run time. Therefore, the process of finding and correcting errors is easier since errors in individual components are detected prior to run time (whereas after run time, all components must be checked).

New Create Synonym Behavior

Synonyms are now created using the Server Console. The Server Console is accessed in the Data Server component when selecting Create Synonym. This functions for all supported platforms except for OS/390 (MVS) (which still accesses the Synonym Wizard). Developers can view existing and new Master and Access Files and delete and refresh synonyms in the Server Console. Developers can also create synonyms for remote Reporting Servers and for relational and multidimensional data sources.

Deferred Receipt Enhancements

In WebFOCUS Version 5 Release 2.0, you can connect from a single WebFOCUS Client installation to multiple WebFOCUS Reporting Servers. This means that it is possible for a single user to have deferred tickets for output residing on multiple servers. Moreover, these servers can be on different platforms and may require different user IDs. Users now have access to all their deferred output, regardless of its location, and are automatically prompted for credentials as needed.

There are also new administrator settings for managing deferred workload. There can now be up to one alternate deferred server per immediate server to separate interactive and deferred processing. You can limit the number of server agents allocated to handling deferred requests and also the number of deferred requests a given user can process at one time (these features are not available on OS/390®). On OS/390, there is now a new global keyword, UNIQUE, that restricts simultaneous server connections to one per logon ID, which can be used to manage both deferred and interactive workload when server authentication is used.

For more information, see Chapter4, *Using the Deferred Report Status Interface,* in the *WebFOCUS Managed Reporting End User's Manual*.

Managed Reporting Migration Utility

The command line migration utility has been enhanced to support multiple MR repositories and migration across platforms (for example, Windows NT/2000 to UNIX) and code pages (for example, UNIX to OS/390 UNIX). The Public user and group required for the Dashboard are also added to the MR repository during migration if not found.

Managed Reporting Change Management Enhancements

Developer Studio now supports copy and paste of MR resources between MR repositories in order to help developers better manage their development, test, and production environments. Developers with proper permissions can now multi-select reports, reporting objects, other files, folders, and sub-folders, or they can select a single domain. The internal name of each resource is checked, and a replace/add/merge dialog box is presented, as appropriate.

Managed Reporting Repository Extract Utility

The IBIDumpRepos.jar utility has been replaced by IBIExtractRepos.jar which now includes support for extracting domain content information, in addition to users, groups, and domain descriptions. New Master Files are provided to describe these extracts so that administrators and developers can better analyze the content of their domains with WebFOCUS.

CHAPTER 4

Ad Hoc Reporting

Topics:

- OLAP Enhancements
- OLAP JavaScript and HTML
- OLAP Drag and Drop Dimensions and Measures
- OLAP Right-Click in a Report
- OLAP Hidden Report
- HTML Report Assistant And HTML Graph Assistant
- HTML Report Assistant: Report Presentation
- HTML Report Assistant: Creating New Columns
- HTML Report Assistant: Selecting Records for a Report
- HTML Report Assistant: Designing Joins
- End User Drill-down Capability
- HTML Graph Assistant
- DBA and DBAFILE Support

These topics describe new features that enhance ad hoc reporting capabilities. These enhancements include OLAP, Report Assistant, and Graph Assistant features.

OLAP Enhancements

OLAP Enhancements include the following:

- OLAP Drag and Drop Dimensions and Measures
- OLAP Right-Click in a Report
- OLAP Hidden Report
- OLAP Forecasting
- OLAP Tiles

OLAP JavaScript and HTML

OLAP is written using JavaScript™ and HTML instead of Java applets. When written this way, OLAP's functionality, look, and feel are the same.There are a few new features, as described below.

OLAP Drag and Drop Dimensions and Measures

You can drag and drop measures and dimension controls from one position to another position in an OLAP-enabled report. You can drag and drop dimensions to and from the following drill down and drill across positions—By to By, By to Across, Across to By, and Across to Across. You can also drag and drop dimension controls from above the blue colored band to the body of the report. You can drag and drop measures to other measure positions to affect the order in which you read the measures.

OLAP Right-Click in a Report

You can right-click dimensions and measures in an OLAP-enabled report to yield several choices. When you right-click a dimension, you have the following choices: Delete, New, Move to Across/By, Full Screen/Show Panel, Field Info., and Help. When you right-click measures you have the following choices: Sort by Highest, Sort by Lowest, Graph, New, Remove Measure, Remove Visualization, Forecast..., Full Screen/Show Panel, Field Info., and Help.

OLAP Hidden Report

You can turn the OLAP selections panel on but keep it hidden in an OLAP-enabled report. Later, if you want to view the OLAP selections panel, you can then right-click any dimension or measure and select Show Panel. You can also return to the Report Options tab in Report Assistant and select Top or Bottom under Enable OLAP to turn on the selections panel.

HTML Report Assistant And HTML Graph Assistant

HTML Report Assistant and HTML Graph Assistant enhancements include the following:

- HTML Report Assistant: Report Presentation
- HTML Report Assistant: Creating New Columns
- HTML Report Assistant: Selecting Records for a Report
- HTML Report Assistant: Designing Joins
- End User Drill-down Capability
- DBA and DBAFILE Support

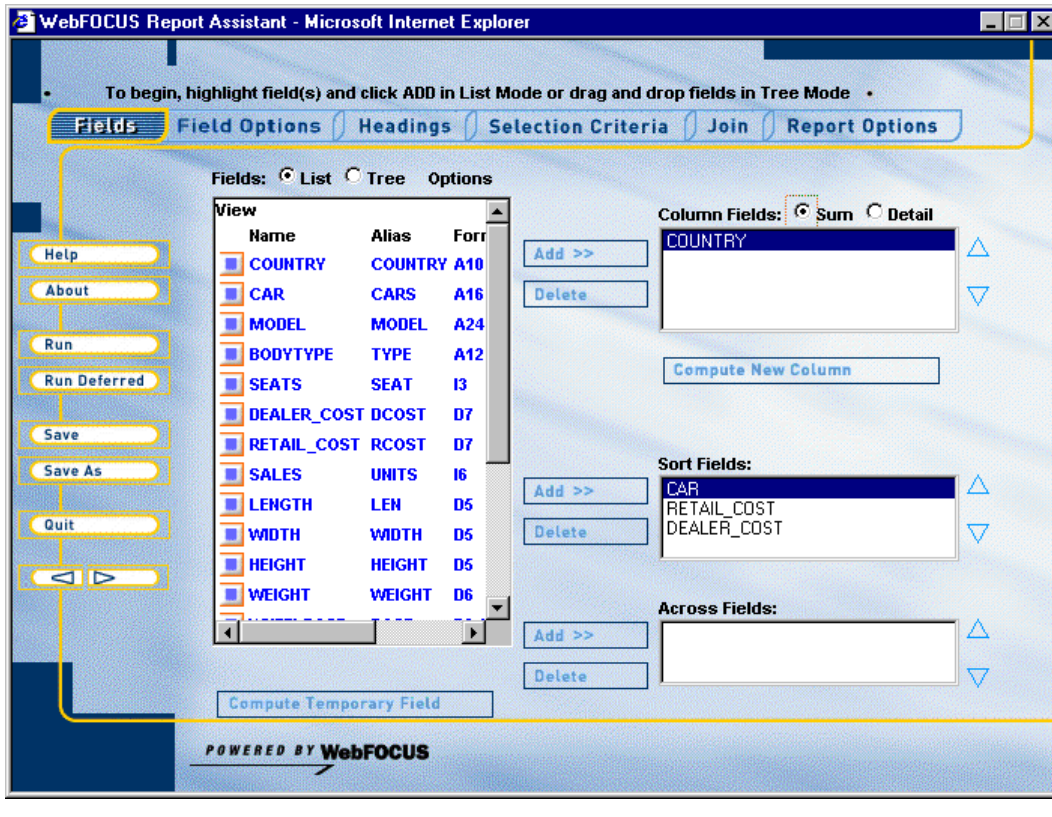
For more information, see Chapter 5, *Creating a Report with the Report Assistant,* in the *WebFOCUS Managed Reporting End User's Manual*.

HTML Report Assistant: Report Presentation

The WebFOCUS Report Assistant has been redesigned and is now an HTML-based graphical tool that allows you to select a data source, specify any sorting or grouping information, and display the report in your browser or another desktop application.

The HTML Report Assistant can be accessed through the Dashboard, Managed Reporting Environment (MRE), or as a stand-alone version.

The HTML Report Assistant is divided into the following tabs—Fields, Fields Options, Headings, Selection Criteria, Join, and Report Options. Each tab includes explanatory text designed to guide you on using the specific features accessed within the tab. Availability of tabs and buttons depends on the type of user logging on to WebFOCUS or Dashboard. Self service users do not have access to the Join tab, Run Deferred, Save, and Save As buttons or OLAP options in the Report Options tab.



WebFOCUS lists available fields in two formats—as a list of fields or as a tree separated by segments. You can click the Fields radio button to toggle between the two formats. Select report fields by highlighting the field and clicking *Add* for Column Fields, Sort Fields, and Across Fields. From either the List or Tree view, you can drag and drop or use *Add*. To multi-select, use List to include fields and then drag and drop or click the *Add* button. List is the default.

The new default display mode for the Field List Box is List mode. List mode allows you to view one or more options—name, alias, title, remarks, format, description, segment, colno, and file name. In List mode, you can sort any list of variables alphabetically from a to z or from z to a by clicking the option name (for example, name or alias). In tree mode, the following options are provided in a box under the tree: segment, alias, title, description, and format.

When you specify a column, you must designate the selected field as Sum (WebFOCUS adds the values together) or Detail (WebFOCUS prints the values individually). The default selection is Sum.

In Report Options, you can now enter your own report title and summary text description for your report. Also the TABT, EXL97, and EXL2K FORMULA have been added to the display format drop-down list.

For more information, see Chapter 5, *Creating a Report with the Report Assistant*, in the *WebFOCUS Managed Reporting End User's Manual*.

HTML Report Assistant: Creating New Columns

You can use the Fields tab to compute new columns (COMPUTES) and temporary fields (DEFINES). If you attempt to create a new column with greater than 66 characters, the following message displays: "Compute string cannot be greater than 66 characters." If you attempt to create a new temporary field with greater than 66 characters, the following message displays: "Define string cannot be greater than 66 characters."

For more information, see Chapter 5, *Creating a Report with the Report Assistant,* in the *WebFOCUS Managed Reporting End User's Manual*.

HTML Report Assistant: Selecting Records for a Report

The Selection Criteria tab enables you to create WHERE or WHERE TOTAL statements for record selection based on values, parameters, and fields. You can combine expressions by clicking the default operator AND and switching between the choices AND, OR, WHERE, and WHERE TOTAL.

You can activate or delete expressions by switching between the green check and the red X that display next to each expression. You can also use parentheses to group expressions together to optimize the WHERE statement. Click the grayed out parentheses to activate the parentheses and group expressions together.

Filters are listed above the file in the fields frame of the Selection Criteria tab. You can drag and drop the filter of your choice from the fields frame to the expressions frame.

For more information, see Chapter 5, *Creating a Report with the Report Assistant*, in the *WebFOCUS Managed Reporting End User's Manual*.

HTML Report Assistant: Designing Joins

HTML Report Assistant has a redesigned Join Tool which you access from the Join tab. The process of creating Joins involves selecting each Master File you want to add and then selecting your joins. When you click the Create Join button, the Join name and Join syntax are displayed. You can also edit or delete a Join from the Existing Join statements list.

For more information, see Chapter 5, *Creating a Report with the Report Assistant*, in the *WebFOCUS Managed Reporting End User's Manual*.

End User Drill-down Capability

Along with Managed Reporting Administrators and domain administrators, end users can now drill down to Standard Reports from within Reporting Objects and My Reports. However, the following limitations apply to the end user drilldown capability:

- End users cannot drill down to My Reports.
- End users can create drilldowns to Standard Reports from Reporting Objects.
- End users can run or delete drill-downs created by administrators or domain administrators to Standard Reports from My Reports. Delete does not alter the Reporting Object, since it only applies to ad hoc requests.

Note: The default is that functionality exists for all users.

For more information, see Chapter 5, *Creating a Report with the Report Assistant,* in the *WebFOCUS Managed Reporting End User's Manual*.

HTML Graph Assistant

The HTML Graph Assistant is a new HTML-based graphical tool that enables you to create a graphical representation of your data. The HTML Graph Assistant is accessible through the Dashboard and Managed Reporting Environment (MRE).

The HTML Graph Assistant is divided into the following tabs:

- **Styles**. Select a graph type. Graph types include line graphs (connected point plots), bar graphs, pie graphs, and scatter graphs, as well as variations on these types.
- **Fields**. Add and remove data fields from your graph.
- **Field Options**. Add conditional styling, drill-down, and other options to your graph.
- **Across**. Create multiple graphs by adding a second X-axis.
- **Headings**. Add and style headings and/or footings for your graph, as well as horizontal (X) and vertical (Y) axis labels
- **Selection Criteria**. Limit the data that appears in your graph by creating WHERE statements. WHERE statements limit data by creating parameters the data must satisfy before it is included in the data set.
- **Properties**. Customize your graph using the sub-tabs (Options, Settings, X-axis, Y-axis, Pie) of the Properties tab. These include customizing fonts, X-axis and Y-axis orientation, output destination, graphs on servers, label locations for all graph types, legend location, and much more.

For more information, see Chapter 6, *Creating Graphs With Graph Assistant,* in the *WebFOCUS Managed Reporting User's Manual*.

DBA and DBAFILE Support

WebFOCUS tools, including Report Assistant, Graph Assistant, and JOIN tools components, now support DBA files and structures containing DBA. For more information on DBA rules, syntax, and examples, see the *Describing Data With WebFOCUS Language* manual. For more information on DBA security for joined data structures, see the *Creating Reports With WebFOCUS Language* manual.

CHAPTER 5

ReportCaster

Topics:

- ReportCaster Architecture and Configuration
- ReportCaster Security and Administration
- Distribution Enhancements
- ReportCaster Development and Administration Interface
- ReportCaster Scheduling Wizard and UAS Interface
- Report Library
- ReportCaster Console
- Log Enhancements

These topics describe new features that pertain to ReportCaster.

ReportCaster Architecture and Configuration

ReportCaster distribution has been moved from the WebFOCUS Reporting Server to the Distribution Server. ReportCaster communication from the Distribution Server to the WebFOCUS Client supports only WebFOCUS Servlet configurations. WebFOCUS CGI and ISAPI configurations are not supported. Additionally, ReportCaster supports multiple WebFOCUS Reporting Servers to create and run schedules. For more information about ReportCaster architecture, see Chapter 1, *Introducing ReportCaster,* in the *ReportCaster Development and Administration Manual*.

ReportCaster now provides a GUI configuration tool for ease of configuration of ReportCaster. Using the configuration tool, administrators can navigate through and change the various configuration parameter settings. For example, ReportCaster now enables administrators to change the polling interval for the Distribution Server, and define access to multiple WebFOCUS Reporting Servers. For more information, see Chapter 8, *ReportCaster Server Configuration,* in the *ReportCaster Development and Administration Manual*.

Enhancements to the ReportCaster Repository have been made to account for the increased functionality of ReportCaster, such as the ability to specify text within the body of an e-mail. For more information about the repository, see Appendix B, *ReportCaster Repository Reports and Tables,* in the *ReportCaster Development and Administration Manual*.

ReportCaster Security and Administration

ReportCaster is changing its security implementation in order to support multiple WebFOCUS Reporting Servers. Running a schedule requires an Execution ID that is a valid user ID for the server running the schedule. In addition, a user-written, external Java program can now be used with ReportCaster, ensuring that ReportCaster user IDs and passwords are properly authenticated without having to store passwords in the ReportCaster Repository. ReportCaster also allows you to assign the Execution ID as the ReportCaster user ID. For more information about ReportCaster security, see Chapter 7, *ReportCaster Security*, in the *ReportCaster Development and Administration Manual*.

When Managed Reporting is configured with ReportCaster, you must use the Managed Reporting User Administrator tool to create and manage users and groups. Managed Reporting calls ReportCaster and synchronizes user information in the ReportCaster Repository. When ReportCaster is not configured with Managed Reporting, the User Administrator tool in the ReportCaster Development and Administration Interface is used to create users and groups. The user ID created with the Managed Reporting or ReportCaster User Administrator tool is the user ID that owns objects (schedules, Distribution Lists, log reports, Library Access Lists, and Library Content). For more information about administering ReportCaster users, see Chapter 2, *Accessing the ReportCaster Development and Administration Interface and Enabling User Capabilities,* in the *ReportCaster Development and Administration Manual*.

ReportCaster now supports multiple ReportCaster Administrator user IDs.

Distribution Enhancements

Using the ReportCaster Development and Administration Interface (see *ReportCaster Development and Administration Interface* on page 5-5), you can create and distribute multiple jobs (Tasks) within a single schedule that uses the e-mail or printer distribution methods. You can distribute one Task per schedule as an inline e-mail message. Additional Tasks will be sent as e-mail attachments. You may specify a maximum of 256 characters of text within the body of an e-mail attachment.

ReportCaster can schedule the following types of Tasks:

- **Reports** (WF Server Procedures, Standard Reports, and My Reports).
- **URLs.** ReportCaster can schedule the execution of a *URL address, and distribute the output to specified recipients*. To drill-down on the information within the contents of the URL, the links must have a fully-qualified path, or a defined root URI in the page.
- **Files** to which the Distribution Server has read access. When scheduling a file, you must enter the fully qualified path and file name (for example, *d:\reportcaster52\filename.doc*) of the file. For example, if you want to distribute a Word document, you can send the static output file to ReportCaster recipients.

Additional distribution enhancements to ReportCaster include the ability to:

- Schedule jobs to run within 1 to 59 minute intervals. The minute interval is useful when scheduling an alert.
- Support multiple WebFOCUS Reporting Servers to create and run schedules.
- Distribute output to the optional Report Library (see *Report Library* on page 5-6).
- Create distribution information dynamically when a scheduled job runs. This is accomplished by running a WebFOCUS procedure.
- Run a scheduled job once and delete it if it is not scheduled to run again.
- Distribute a report that is created using the WebFOCUS GRAPH FILE and -HTMLFORM commands.
- Specify additional WebFOCUS output formats (ALPHA, GIF, XML, TABT, COMMA, EXL97, and EXL2K FORMULA).
- Send a single e-mail including multiple burst sections as attachments.
- Zip scheduled output (e-mail only).

For more information about distribution enhancements, see Chapter 4, *Creating and Maintaining a Schedule,* in the *ReportCaster Development and Administration Manual*.

ReportCaster Development and Administration Interface

The ReportCaster Development and Administration Interface, which is a full client application that uses Java™ Web Start technology, replaces the Java applet user interface. From this redesigned interface, which requires JRE 1.4.0_02 (supplied with the installation CD) on the user's desktop, you can:

- Access the ReportCaster Server Configuration tool.
- Create users and groups to provide ReportCaster capabilities for non-Managed Reporting users (when Managed Reporting is configured with ReportCaster, you must use the Managed Reporting User Administrator tool to create and manage users and groups).
- Create and maintain a Distribution List.
- Create and maintain a schedule.
- Access the Library Access List and Library Management interfaces of the optional Report Library product.
- View a Job Process Log Report and maintain the log file.

For more information, see Chapter 2, *Accessing the ReportCaster Development and Administration Interface and Enabling User Capabilities,* in the *ReportCaster Development and Administration Manual*.

ReportCaster Scheduling Wizard and UAS Interface

The Managed Reporting Analytical User (formerly specified as a Java User in Version 4 Release 3.6) can create a schedule for a Managed Reporting My Report using the ReportCaster Scheduling Wizard, which may be accessed from the Business Intelligence Dashboard and Managed Reporting Domains environments. Once you have created the schedule, you can access the ReportCaster User Administration Services (UAS) Interface to edit the properties of the schedule, delete the schedule, or run a log report to obtain information about the schedule. Additionally, you can purge log records to conserve space in the log file. These redesigned interfaces, which use DHTML technology, replace the ReportCaster Java applet user interface, and offer the following new functionality:

- Distributing My Reports to the optional Report Library.
- Running a schedule once and deleting it if it is not scheduled to run again.
- Alpha, GIF, XML, TABT, COMMA, EXL97, and EXL2K FORMULA formats.
- Specifying a maximum of 256 characters of text within the body of an e-mail message.

For more information about the Scheduling Wizard and the ReportCaster UAS Interface, see the *ReportCaster End User's Manual*.

Report Library

When you create a schedule, you can specify to distribute schedule output to the Report Library, an optional storage and retrieval facility. The schedule output must be stored in a SQL repository (for example, SQL Server, Oracle, and DB2). The Report Library can contain any information that is distributed by ReportCaster (WF Server Procedures, Standard Reports, My Reports, URLs, and Files). When distributing to the Report Library, you can send an e-mail informing users of its availability and the link to the content in the library.

The Report Library includes secure access to library content, the ability to save multiple versions of the same output, and the ability to set an expiration date or keep a specified number of versions. The Report Library is only available to ReportCaster users who have been granted access to the library.

The Report Library consists of the following interfaces:

- **Library Access List.** Defines who may access specific content in the Report Library.
- **Library Content.** View the content in the Report Library to which you have been granted access.
- **Library Management.** ReportCaster Administrator's can view a high-level summary of the content in the Report Library. Reports can be deleted, but the actual content of the reports cannot be viewed.

For more information about the Report Library, see Chapter 5, *Report Library*, in the *ReportCaster Development and Administration Manual*. If you are not an administrator, see Chapter 5, *Report Library*, in the *ReportCaster End User's Manual*.

ReportCaster Console

The ReportCaster Console is an interactive administrator's tool that may be used to maintain and view schedule and log information stored in the ReportCaster Repository. From the redesigned ReportCaster Console, you can select the following options:

- **Info.** Generates a list of schedules based on criteria you specify. The resulting list may then be used to view additional information about a specific schedule. You may also run a schedule adding Task parameters, and run a log report for a specific schedule.
- **Status.** Generates a list of scheduled jobs that are in the Distribution Server queue. Depending on the status of the job, you can then delete a job, change its priority, or run a Job Process Log Report.
- **Log.** Generates a list of schedules based on criteria you specify. The resulting list may then be used to view a Job Process Log Report, or purge a log transaction. These actions may be performed for a specific schedule or for all schedules.
- **Execution ID.** Add a new Execution ID, which is a valid user ID that is used to run a scheduled Task on a specified server. You can also change the password of an Execution ID, or delete an Execution ID.
- **Tools.** Globally replace field values in the ReportCaster Repository.
- **Logoff.** Log off the ReportCaster Console.
- **Help.** Open the online help file.

For more information about the ReportCaster Console, see Chapter 6, *ReportCaster Console,* in the *ReportCaster Development and Administration Manual*.

Log Enhancements

ReportCaster now provides users with the ability to:

- Suppress log file messages for burst values not distributed.
- Add burst values to log information indicating successful and unsuccessful distribution.
- Include distribution information by Task.

For more information about viewing a log report and purging log records, see Chapter 4, *Creating and Maintaining a Schedule*, in the *ReportCaster Development and Administration Manual*.

CHAPTER 6

ReportCaster API and Two-Way Email API

Topics:

- ReportCaster API Servlet Overview
- ReportCaster Servlet API Descriptions
- ReportCaster Repository Tables Accessed by the Servlets
- Servlet Security
- Default User in Configuration
- IBIB_user Parameter
- ReportCaster Bean API Overview
- ReportCaster Bean API Components
- Beans Within the ibi.broker.beans Package
- Beans Within the ibi.broker.beans.handler Package
- ReportCaster API Repository Tables
- Security for the ReportCaster Bean API
- Using the ReportCaster Bean API
- ReportCaster API Sample Pages
- Scheduling Functions
- Log Functions
- Logging On to the ReportCaster Bean API
- Two-Way Email API

This chapter is an addendum to the *ReportCaster and Two-Way Email API for Self-Service Applications* manual. Refer to this manual for further detail on parameters and properties for the API components. Please note the following important changes, which apply to all components of the ReportCaster API:

- The Servlet and Subroutine API is functionally stabilized at the 4.3.6 level.
- The Bean API is at the 4.3.6 level. Release 5.2 features will be available in a future service pack.
- New parameters for the ReportCaster API include:
  - ReportCaster User: Owner of Schedules and Distribution Lists.
  - Execution ID and Password: Valid credentials to connect to the server that hosts the ReportCaster task
  - Server Name: Now must be specified since ReportCaster operates in a multi-server environment

Note that where this documentation refers to an “owner” this refers to a ReportCaster user.

ReportCaster API Servlet Overview

The ReportCaster Servlet API enables application users to:

- Create, maintain, and display Distribution Lists that contain the addresses of recipients of scheduled reports. These may be public or private lists.
- Schedule the time and frequency of report execution and distribution. These reports may be scheduled immediately or as deferred reports.
- View information about the execution and distribution of reports.

ReportCaster Servlet API Descriptions

The following table describes the ReportCaster Servlet API.

Servlet	Description
DSTDLBULK	Enables the user to create a new Distribution List, add new members to an existing Distribution List, replace the members in a Distribution List, and delete a Distribution List.
DSTDLMEM	Maintains single members in a Distribution List. Enables the user to add a new member or delete an existing member.
DSTDLLIST	Displays a Distribution List in the browser.
DSTSCHED	Schedules the execution and distribution of a report.
DSTACTIVE	Sets the status of a scheduled report, which can be active or inactive. An active report runs and is distributed at the next scheduled interval; an inactive report does not run as scheduled.
DSTRUNNOW	Immediately runs and distributes a report.
DSTLOG	Displays information about the events that occurred during the execution and distribution of a report that was scheduled using the ReportCaster API.

ReportCaster Repository Tables Accessed by the Servlets

The ReportCaster Servlet API writes to, and reads from, a repository that stores distribution and scheduling information. The repository is SQL-based (relational) tables, or FOCUS proprietary data sources. The SQL-based version is recommended for applications that have a high volume of scheduled reports.

Note: FOCUS data sources must reside on the same platform as the WebFOCUS Reporting Server.

When the ReportCaster Repository is SQL-based, the ReportCaster Servlet API uses JDBC to write to and read from the repository tables.

When configuring ReportCaster with a FOCUS Repository, the ReportCaster Servlet API connects to the WebFOCUS Reporting Server to communicate to the FOCUS Database Server (FDS) to write to and read from the FOCUS Repository data sources.

Reference

ReportCaster Servlet API Repository Tables

The following ReportCaster Repository tables are accessed by the ReportCaster Servlet API:

Repository Table	Description	Servlet Used
BOTADDR	Contains Distribution Lists, including information such as the distribution method and the owner of the Distribution List.	Maintained by DSTDLBULK. Read by DSTDLLIST.
BOTDEST	Contains information on the individual members of a Distribution List.	Maintained by DSTDLBULK and DSTDLMEM. Read by DSTDLLIST.
BOTPARMS	Contains parameter information. Enables a user to schedule a report to run with certain parameter values.	Maintained by DSTSCHED. Read by DSTRUNNOW.
BOTSCHED	Contains scheduling information, including scheduling interval, procedures that are run before a report, and procedures that are run after a report.	Maintained by DSTSCHED and DSTACTIVE. Read by DSTRUNNOW to immediately run a report.

Repository Table	Description	Servlet Used
BOTTASK	Contains information about each individual Task within a schedule.	Maintained by DSTSCHED. Accessed at run time by DSTRUNNOW.
BOTPACK	Contains the packet ID, which uniquely identifies each schedule.	Maintained by DSTSCHED. Accessed at run time by DSTRUNNOW.
BOTLOG	Contains log property information (job description, schedule ID, user IDs, and start and end time of the job).	Read by DSTLOG.
BOTLOG2	Contains information on the events related to the execution and distribution of a report. **Note:** The DSTLOG servlet has the ability to delete records in BOTLOG, which then would delete corresponding records in BOTLOG2.	Read by DSTLOG.
BOTTSKEX	Contains user and server-related information pertaining to a specific task such as ReportCaster User ID, Execution ID and Password, and Server	Maintained by DSTSCHED. Accessed at run time by DSTRUNNOW.

Servlet Security

Before a user can access a ReportCaster Servlet API application, a valid WebFOCUS logon must take place. All ReportCaster Servlet API functions require authentication and validation of the ReportCaster user (the owner of schedules, logs and other ReportCaster objects).

The two ways in which the ReportCaster user credentials can be authenticated are

- Explicitly setting the ReportCaster user credentials in the html form which calls the API servlet.
- Allowing the ReportCaster user credentials to default to what is set and stored in the ReportCaster configuration tool.

Servlet API functions that involve creating or running schedules also require a valid Execution user id and password in order to run tasks on the target server. The ReportCaster Servlet API derives the Execution user credentials as follows:

- The default server name is read from the ReportCaster configuration file.
- The execution id credentials for the default server are derived from the WebFOCUS cookie.

The WebFOCUS cookie contains credentials for all servers that the user has logged on to. The API searches for the explicit name found in the ReportCaster configuration file. If that server name is not found, it assumes that the default server in the WebFOCUS cookie (name is * in the cookie) is the default server from the ReportCaster configuration file.

Creating Cookies for User Credentials

WebFOCUS cookies are established when a valid WebFOCUS logon occurs using the WF_SIGNON action. On Windows NT, a sample logon form, rbalogon.htm, is distributed with ReportCaster.

This form navigates to an rbaindex.htm form, which has links to all other sample forms. For more information about sample HTML forms that call ReportCaster Servlet API, see *ReportCaster API Servlet Samples* in the *ReportCaster and Two-Way Email API for Self-Service Applications* manual.

You can use the supplied logon form, or create your own custom form that assigns the value WF_SIGNON to the variable IBIWF_action. This causes the creation of the cookies containing the validated userid of the current ReportCaster user and validated credentials for various servers that are specified in the logon form(s).

Default User in Configuration

The Default User is set in the ReportCaster Server configuration tool. It contains the owner id assigned to all API based schedules that have been migrated to ReportCaster Release 5 from a previous release. If the IBIB_casteruser is not explicitly set in the HTML form, the servlet API will use the value of Default User as the owner for the target schedules, logs and distribution lists. However, the creation of new schedules and new distribution lists which always assigns the Default User as the owner of the new object.

IBIB_user Parameter

The ReportCaster Servlet API allows the Default User from the configuration file, i.e., the owner ReportCaster objects, to be overridden by passing the owner to the API within the HTML form that calls the servlets. The owner id is passed in the parameter IBIB_user. The handling of IBIB_user differs for each servlet API function.

The DSTDLBULK and DSTDLMEM servlets, which maintain Distribution Lists, will accept IBIB_user as a parameter. This parameter identifies the owner of the Distribution List and allows users to add records to, and delete records from Distribution Lists owned by other users provided that they know the owner's user ID.

In this way, subscription reporting is enabled. An administrator can develop an HTML form that supplies a hidden variable with the owner id of a public Distribution List (for example, <INPUT TYPE="HIDDEN" NAME="IBIB_user" VALUE="publicuser">). Users can then add their e-mail addresses to the list and subscribe to the reports associated with the Distribution List.

Listing the contents of a Distribution List using the DSTDLLIST servlet is an open function available to all users without identifying ownership.

The DSTRUNNOW servlet, which runs a scheduled job immediately, allows users to run their own jobs or other users' jobs. If the IBIB_user is not supplied, the servlet uses the Default User from the configuration tool. If the the IBIB_user is supplied, a job associated with that user ID can be run. This feature ensures that the user has knowledge of the owner's user ID before executing their job.

The DSTACTIVE servlet, which changes the status of a job, accepts the IBIB_user if present on the HTML form and allows jobs with that owner to have their status updated.

When the user id is set to a ReportCaster Administrator ID, either via the configuration file or the IBIB_user parameter, any schedules, distribution lists or log records can be accessed.

The following table summarizes the relationship between the owner id in the cookie and the IBIB_user parameter for each of the servlets:

Servlet	**IBIB_user Description**
DSTDBULK	Required for adding members to an existing Distribution List, replacing members in an existing Distribution List, or deleting an existing Distribution List, if the Default User in the configuration file is not the owner of the Distribution List. Not used if creating a new Distribution List. The owner of the new Distribution List is always the Default User from the configuration file. IBIB_user should not be specified and will be ignored if set.
DSTDLMEM	Required if the user in the cookie is not the owner of the Distribution List.
DSTDLLIST	No security checking. Any user can view any Distribution List.
DSTSCHED	The owner of the scheduled job is always the Default User from the configuration file. IBIB_user should not be specified and will be ignored if set.
DSTACTIVE	Required if the Default User is not the owner of the schedule.
DSTRUNNOW	Required if the Default User is not the owner of the schedule.
DSTLOG	Required if the user in the Default User is not the owner of the target log reports.

ReportCaster Bean API Overview

Version 5 Release 2 has been greatly enhanced to support creating schedules using multiple WebFOCUS reporting servers, in addition to the ability to create multiple 'tasks' within a schedule. These enhancements introduce a new and different paradigm for user authentication, server validation, and obtaining information. The "Security for the ReportCaster Bean API" section details these enhancements.

Specifying multiple server and tasks within a schedule are currently supported only in the ReportCaster Development and Administration facility for this version. The API will provide this capability in a future release of Version 5 Release 2.

The ReportCaster Bean API consists of JavaBeans components. These JavaBeans components (or Beans) handle the application logic for a ReportCaster self?service application. For detailed online documentation about these Beans, developers can access:

- http://hostname/ibi_html/broker/docapibeans/index.html (where hostname is the host name of the Web server on which WebFOCUS is installed).

The ReportCaster Bean API is independent of the WebFOCUS Managed Reporting Environment (MRE) and Business Intelligence Dashboard (BID). It enables developers to use JSP technology, a Java servlet, or a Java application to create an independent, customized application that offers the features of ReportCaster.

ReportCaster Bean API Components

The ReportCaster Bean API consists of JavaBeans components. These JavaBeans components (or Beans) handle the application logic for a ReportCaster self-service application. For detailed online documentation about these Beans, developers can access:

- http://*hostname*/ibi_html/broker/docapibeans/index.html (where *hostname* is the host name of the Web server on which WebFOCUS is installed).
- *ReportCaster API for JavaBeans Components* on your documentation CD.

The ReportCaster Bean API is independent of the WebFOCUS Managed Reporting Environment (MRE) and Business Intelligence Dashboard (BID). It enables developers to use JSP technology, a Java servlet, or a Java application to create an independent, customized application that offers the features of ReportCaster.

Beans Within the ibi.broker.beans Package

The following table describes the Beans within the ibi.broker.beans package.

Bean Name	Description
DSTAPIStatus	Checks completion status for authentication and initialization. Detects exception messages and validates properties.
DSTAuthenticate	Provides basic service for security authentication and configuration information.
DSTBeanResult	Holds the results, condition codes, and messages for all functions in the ReportCaster Bean API.
DSTBeanHandler	Represents all handler objects that perform a function in the ReportCaster Bean API.
DSTLogFactory	Enables applications to set or get log properties and obtain any specified DSTBeanHandler to retrieve, delete, or update the BOTLOG repository table.
DSTSchedFactory	Enables applications to set or get schedule properties and obtain any specified DSTBeanHandler to retrieve, delete, or update the BOTSCHED, BOTTSKEX, and BOTPACK repository tables.

Beans Within the ibi.broker.beans.handler Package

The following table describes the Beans within the ibi.broker.beans.handler package.

Bean Name	Description
DSTPeriodSchedule	Is the handler used to obtain schedule or log information.
DSTSelectionHandler	Is the handler used to get the schedule list.

ReportCaster API Repository Tables

The following tables are used by the ReportCaster Bean API.

Reference

ReportCaster Bean API Repository Tables

The following ReportCaster Repository tables are accessed by the ReportCaster Bean API:

Repository Table	Description	Used By
BOTSCHED	Contains scheduling information. Includes scheduling interval, procedures that are run before a report, and procedures that are run after a report.	DSTSchedFactory
BOTPARMS	Contains parameter information. Enables a user to schedule a report to run with certain parameter values.	DSTSchedFactory
BOTLOG	Contains log property information (job description, schedule ID, ReportCaster user IDs, and start and end time of the job).	DSTLogFactory
BOTLOG2	Contains information on the events related to the execution and distribution of a report. **Note:** The DSTLogFactory Bean has the ability to delete records in BOTLOG, which then would delete corresponding records in BOTLOG2.	DSTLogFactory
BOTTASK	Individual Task information. Includes the name of Task, Execution ID for the Task, and the WebFOCUS Reporting Server name.	DSTSchedFactory
BOTTSKEX	Contains user and server-related information pertaining to a specific task such as ReportCaster User ID, Execution ID and Password, and Server	DSTSchedFactory

Repository Table	Description	Used By
BOTPACK	Contains the Packet ID, which uniquely identifies each schedule.	DSTSchedFactory

Security for the ReportCaster Bean API

User authentication and configuration information must be established and validated using the DSTAuthenticate bean prior to accessing any other ReportCaster bean. Server credentials are also necessary for validation prior to accessing or creating files on a server. The following sections describe what is required for each of these processes. Sections of code samples and sample JSP provided later in this document further illustrate the concepts discussed.

DSTAuthenticate Bean

The following describes the methods available for authentication using the DSTAuthenticate bean.

	Method Summary
void	removePropertyChangeListener (java.beans.PropertyChangeListener listener) Remove a PropertyChangeListener from the listener list.
void	setAgentProperty (java.lang.String agent) Set the agent property in the in the format AGENT_NODE:AGENT_PORT, where AGENT_NODE is the host name for Distribution Server, AGENT_PORT is the the port number for Distribution Server.
void	setPass (java.lang.String pass) Set the password for authentication
void	setRequest (javax.servlet.http.HttpServletRequest request) Set the HttpServletRequest for authentication
void	setUser (java.lang.String user) Set the user id for authentication

User Authentication

The ReportCaster User, new to Release 5.2, is the owner of schedules and distribution lists. Valid values, created by the ReportCaster Administrator must be supplied to the DSTAuthenticate Bean in order to gain access to other ReportCaster beans. These values may be supplied in a Managed Reporting (MR) cookie, or by specifying values in a JSP or Java program.

Server Validation

Server credentials are supplied by specifying values for the Execution ID (IBIB_execid), Execution Password (IBIB_execpass), and Server Name (IBIB_servername). The Execution ID and Password are valid operating system credentials used to connect to the specified servername. These values may be supplied using the ReportCaster Configuration Tool (see ReportCaster Configuration Manual), or by specifying values in a JSP or Java program.

Configuration Information

The configuration information needed by the DSTAuthenticate Bean is the value for the ReportCaster Distribution Server host name and port (AGENT_NODE and AGENT_PORT). This configuration information is needed to communicate to the ReportCaster Repository and to connect to the WebFOCUS Reporting Server.

The setAgentProperty method of the DSTAuthenticate Bean must be used to obtain the required configuration information. This method specifies the host name and port of the Distribution Server. This may be supplied in a JSP or in a Java program.

Using the ReportCaster Bean API

The ReportCaster Bean API classes are contained in the DSTRCServlets.jar file under the ReportCaster web application. JavaServer Pages (JSP) or Java programs are used to access the ReportCaster Bean API. Our sample JSP application illustrates techniques that can be used for a web application. For more information about the sample ReportCaster Bean API application, see *ReportCaster and Two-Way Email API for Self-Service Applications* manual. Using the ReportCaster Bean API require that distinct steps are followed as described below, for either a JSP or Java program.

Procedure How to Use the ReportCaster Bean API

To use the ReportCaster Bean API within your JSP, Java servlet, or Java application, follow the steps below. For illustration purposes, sections of code from a sample JSP follow each step.

1. Import Bean packages to make them available to your Java program (JSP, Java servlet, or Java application).

   ```
   <%@ page language="java" import="ibi.broker.beans.*" %>
   ```

2. Create a DSTAuthenticate object that contains all the property information needed for security authentication to the Distribution Server.

   ```
   <jsp:useBean id="auth"
   scope="session" class="ibi.broker.beans.DSTAuthenticate" />
   ```

3. Create an object for the Bean from which you want to perform functions (scheduling and log). For example, in the following code, the factory object contains all the property information needed for scheduling.

   ```
   <jsp:useBean id="factory" scope="session"
   class="ibi.broker.beans.DSTSchedFactory" />
   ```

4. Submit an authentication object into the object created in step 3.

   If you are using the MR Cookie, specify the setRequest method.:

   ```
   <%
      factory.setAuthenticate(auth);
      factory.clear();
      auth.setRequest(request);
   %>
   ```

   If you are not using the MR Cookie, specify the setUser and setPass methods:

   ```
   <%
      factory.setAuthenticate(auth);
      factory.clear();
      auth.setUser("ReportCaster User ID");
      auth.setPass("ReportCaster Password");
   %>
   ```

5. Specify connection and configuration information.

```
<jsp:setProperty name = "auth" property="agentProperty"
value="agent_node:agent_port" />
```

where:

value

Is the agent node and agent port of the distribution server, for example localhost:8200.

6. For each function (or method) you want to run, perform the following:

   a. Using the object created in step 3, set the properties for the function you want to perform. Following is an example of using the values on an HTML form to set the properties for the factory object.

```
<jsp:setProperty name = "factory" property="*" />
```

   b. Create a request object in the DSTBeanHandler that will contain the function specified in the factory object.

```
DSTBeanHandler app = factory.getCreateScheduleHandler();
```

   c. In the DSTBeanHandler object, issue the process Request method to run the Bean function specified in the factory object. For example, to create a new schedule, process the request object in Step b as follows:

```
app.processRequest();
```

   d. Issue the getAPIStatus method of the DSTBeanHandler object to obtain the DSTAPIStatus Bean. This describes the status of your request.

```
DSTAPIStatus status = app.getAPIStatus();
int code = status.getErrorCode();
```

or

```
String message = status.getErrorMessage();
```

e. For functions that return data, such as log functions, you must first retrieve the error code of the DSTAPIStatus Bean to obtain the return code. Next, compare the return code to the variable DSTAPIStatus.NO_ERROR. There are two possible outcomes:

The return code and the DSTAPIStatus.NO_ERROR variable are equal, meaning that your request was successful and you can now obtain your answer set.

The return code and DSTAPIStatus are not equal, meaning that your request failed. Use the getErrorMessage method in the DSTAPIStatus object to obtain a detailed message.

The following section of code illustrates the error recovery process.

```
int code = status.getErrorCode();
    if(code == DSTAPIStatus.NO_ERROR) {
        String back = request.getParameter("CASTER_backlink2");
%>
        <jsp:forward page="<%= back %>" />
<%
    }
    else {
%>
        <jsp:forward page="rcaster_output.jsp">
            <jsp:param name="CASTER_errormessage" value="<%=
status.getErrorMessage() %>" />
        </jsp:forward>
<%
    }
%>
```

Note: Messages implemented for DSTAPIStatus object are not currently internationalized.

f. To obtain an answer set, issue the getBeanResult of the DSTBeanHandler object. This will return a DSTBeanResult object. The result set can be obtained in XML, as a ReportCaster result set, or sent to the browser in HTML format

To obtain your result as XML, use the getXML method of the DSTBeanResult. For more information about the DTD for the XML result sets returned by the ReportCaster Bean API, see the *ReportCaster and Two-Way Email API for Self-Service Applications* manual.

To obtain your result as a ReportCaster result set, see the *ReportCaster and Two-Way Email API for Self-Service Applications* manual.

To send your result to the browser, code a JSP. HTML code incorporated in the JSP is used to display the result set. For more information about the methods and properties that may be accessed in your JSP, see http://hostname/ibi_html/broker/docapibeans/index.html (where hostna*me* is the host name of the Web server on which WebFOCUS is installed), and the *ReportCaster and Two-Way Email API for Self-Service Applications* manual.

ReportCaster API Sample Pages

A set of sample ReportCaster API JavaServer™ Pages (JSP) that use Bean functionality are distributed with the ReportCaster API samples subdirectory under the ReportCaster installation directory. Use these samples or customize them for your application needs.

Scheduling Functions

The following table lists the sample JavaServer Pages for scheduling functions that are distributed with the ReportCaster Bean API. These pages all use the DSTSchedFactory Bean and perform authentication.

ReportCaster Bean API Sample JavaServer Pages	Description	Main Method
rcaster_newschedule	Input form for a new schedule. Calls rcaster_create.jsp.	getServerProcedureHandler **Required properties: IBIB_execid, IBIB_execpass, IBIB_servername**
rcaster_create	Creates a new schedule.	getCreateScheduleHandler **Required properties:** All required schedule properties
rcaster_runonce	Runs a schedule once then deletes it from BOTSCHED.	getRunOnceScheduleHandler **Required parameter:** IBIB_scheduleid
rcaster_list	Generates a list of schedules.	GetScheduleListHandler **Required parameter:** None
rcaster_property	Displays main properties of a schedule.	getSchedulePropertyHandler **Required parameter:** IBIB_scheduleid
rcaster_detail	Generates the details of a schedule.	getScheduleDataHandler **Required parameter:** IBIB_scheduleid

ReportCaster Bean API Sample JavaServer Pages	Description	Main Method
rcaster_copy	Copies an existing schedule.	GetScheduleDataHandler getCreateScheduleHandler **Required parameter:** All required schedule properties
rcaster_update	Updates schedule information.	getUpdateScheduleHandler **Required parameter:** IBIB_scheduleid
rcaster_delete	Deletes a schedule from BOTSCHED.	getDeleteScheduleHandler **Required parameter:** IBIB_scheduleid
rcaster_run	Runs a schedule based on frequency.	getRunScheduleHandler **Required parameter:** IBIB_scheduleid
rcaster_setrun	Runs a schedule based on set priority.	getScheduleDataHandler **Required parameter:** IBIB_scheduleid
rcaster_clist	Generates a list of schedules based on selected conditions.	getPeriodScheduleHandler **Required parameter: rbaschclist.htm input**
rcaster_runnowlog	Generates a list for schedules run immediately.	GetProcessLogHandler **Required parameter: IBIB_jobnumber**

Log Functions

The following table lists the sample JavaServer Pages for log functions that are distributed with the ReportCaster Bean API. These pages all use the DSTLogFactory Bean and perform authentication.

ReportCaster Bean API Sample JavaServer Pages	Description	Main Method
rcaster_loglist	Generates a list of schedules in BOTLOG and BOTLOG2.	getLogListHandler **Required parameter: IBIB_jobnumber**
rcaster_logplist	Generates a list of processes for a schedule ID.	getSelectionHandler **Required parameter: IBIB_jobnumber**
rcaster_logpdelete	Deletes one or all processes for a schedule ID.	getDeleteProcessLogHandler **Required parameter: IBIB_jobnumber**
rcaster_logdelete	Deletes a schedule from BOTLOG and BOTLOG2.	getDeleteLogHandler **Required parameter: IBIB_jobnumber**

Procedure How to Change the Agent Node and Agent Port Values

If you are not using the default value of localhost:8200 for the Agent Node and Agent Port to connect to the Distribution Server, you must manually change any sample pages that contain these values. The default value for agentProperty displays as follows:

```
<jsp:setProperty name = "auth" property="agentProperty"
value="localhost:8200" />
```

Logging On to the ReportCaster Bean API

The ReportCaster API requires user authentication. A sample logon form (which creates an MR cookie) is distributed with ReportCaster. Specify the URL to access the sample logon form as follows:

```
http://machine/rcaster/samples/rbalogon.html
```

The Welcome page contains links to:

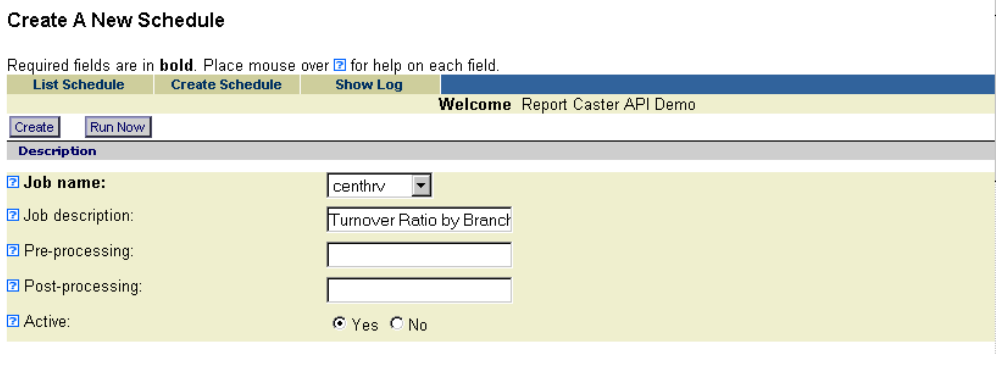
- Servlet Samples.
- JSP Sample Application.
- ReportCaster Repository Reports using a WebFOCUS servlet or a WebFOCUS CGI call.

JSP Schedule Options

This section describes how to create a schedule and the ways in which you can list, update, delete, copy, and run the schedule once it has been created.

Procedure How to Create a Schedule Using a JSP

1. Click *Create* (runs rcaster_newschedule.jsp) in the Schedule section of the JSP Samples. The Create a New Schedule window displays:



On HP-UX 11 using the iPlanet Web server, parameters are lost when a page forward is performed within a JSP. Therefore, a null message displays when running the rcaster_newschedule.jsp. As a workaround, modify the rcaster_newschedule.jsp and replace the page forward with the actual code from the forwarded file.

2. Enter the following values in the Description section:

   a. **Job name** (required). The name of the report request to be scheduled for execution and distribution. This must be specified in EDAPATH, and it can only be selected from the drop-down list.

      Do not include the file name extension. The first character of this value must be alphanumeric. Single quotes and ampersands are not allowed.

      Note: When creating a schedule using the rcaster_newschedule.jsp with a FOCUS Repository, do not use parentheses in the job name field.

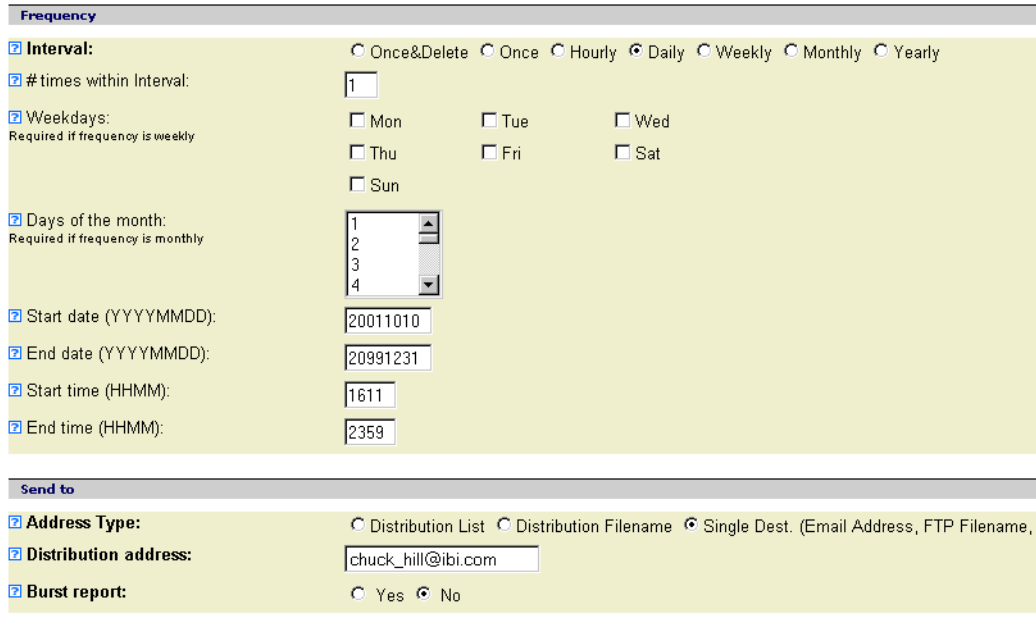
   b. **Job description** (optional). A unique, user-supplied description for the report request (job) being scheduled. Alphanumeric characters with embedded blanks and special characters are allowed.

   c. **Pre-processing** (optional). The name of a procedure and its parameter string that will run prior to the scheduled report request. This procedure typically performs setup tasks.

   d. **Post-processing** (optional). The name of a procedure and its parameter string that will run after the scheduled report request.

   e. **Active** (required). The status of a report request. Valid values are Yes (Active) and No (Inactive).

3. Scroll to the Frequency section and enter the frequency parameters:



a. **Interval** (required). The period of time (the interval) on which report execution and distribution are based. Valid values are:

Once&Delete—Runs the report and then deletes it from BOTSCHED.

Once.

Hourly.

Daily.

Weekly.

Monthly.

Yearly.

b. **# times within interval** (optional). The number of times you want to run your report within the interval specified.

c. **Weekdays** (required if interval is Weekly). If you specified a weekly interval, this parameter is the day of the week the report request will run.

This parameter can occur multiple times. For example, if you specify a weekly interval, and specify 3 for the # of times within interval, the report runs every 3 weeks. Values are required for the specific days of the week such as Monday, Wednesday, and Friday.

d. **Days of the month** (required if interval in monthly). If you specified a monthly interval, this parameter is the day of the month the report request will run.

This parameter can occur multiple times. For example, if you specify a monthly interval, and specify 2 for the # of times within interval parameter, the report runs every 2 months. Values are required for the specific days in the month, such as the 1st and the 15th.

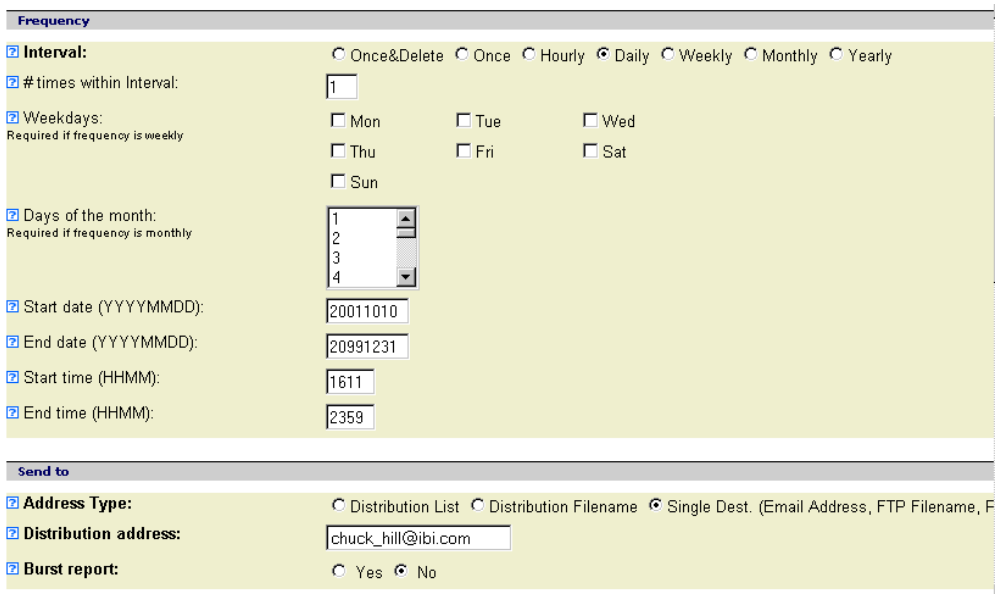
e. **Start date (YYYYMMDD)** (optional). The date of first report execution and distribution, in the format *YYYYMMDD*, where *YYYY* is the 4-digit year, *MM* is the month, and *DD* is the day of the month. The default is the current system date.

f. **End date (YYYYMMDD)** (optional). The date of last report execution and distribution, in the format *YYYYMMDD*, where *YYYY* is the 4-digit year, *MM* is the month, and *DD* is the day of the month. The default is 20990101.

g. **Start time (HHMM)** (optional). The time of first report execution and distribution, in the format *HHMM*, where *HH* is the hour and *MM* is the minute. The default is the current system time.

h. **End time (HHMM)** (optional). The time of last report execution and distribution, in the format *HHMM*, where *HH* is the hour and *MM* is the minute. The default is 0000 (midnight).

4. Scroll to the Send to section and enter the send to parameters:



a. **Address Type** (required). The distribution method:

Distribution List.

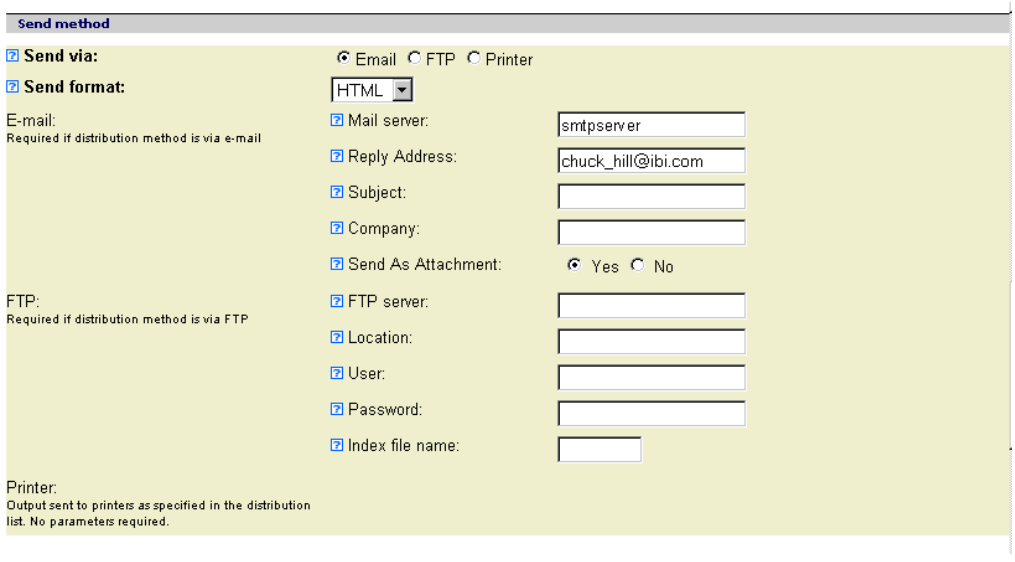
Distribution Filename. You must enter the fully qualified path of the file (for example, c:\ibi\apps\filename.fex). This must reside on EDAPATH.

Single Destination (single e-mail address, single FTP file name, or a single printer).

b. **Distribution address** (required). A particular Distribution List, distribution file name, single e-mail address, FTP file name, or printer. For example, chuck_hill@ibi.com is a single e-mail address.

c. **Burst report.** Possible values are Yes (burst) and No (no burst).

5. Scroll to the Send method section and enter the send method parameters:



a. **Send via** (required). The distribution method. Possible values are e-mail, FTP, or printer.

b. **Send format** (required). The format of your distributed report output. Possible values are:

WP for plain text.

HTML for hypertext (recipient must have a browser in order to view).

PS for PostScript (recipient must have a GhostView application in order to view).

DOC for plain text with ASCII page breaks.

PDF for Adobe Acrobat PDF format (recipient must have Adobe in order to view).

EXCEL (recipient must have EXCEL in order to view).

EXL2K (recipient must have EXCEL 2000 in order to view).

WK1, a Lotus 1-2-3 spreadsheet format.

Note:

- If you specified a distribution method of e-mail, proceed to step 6.
- If you specified a distribution method of FTP, proceed to step 7.
- If you specified a distribution method of printer, the output is sent to the printer selected in the Distribution List. No parameters are required. Proceed to step 8.

6. If you specified a distribution method of e-mail, enter the following e-mail parameters:

   a. **Mail server** (required). The name of the mail server that distributes the report. Single quotes and ampersands are not allowed. The default value is the value specified in the ReportCaster configuration file (bkrsched.cfg).

   b. **Reply Address** (required). The e-mail address for return mail (the reply address). Single quotes and ampersands are not allowed, and an @ character must be included.

   c. **Subject** (optional). The content or purpose of the e-mail.

   d. **Company** (optional). The company that the sender is associated with.

   e. **Send As Attachment** (required). Specifies whether to send the e-mail as an attachment (Yes) or within the body of the e-mail (No).

7. If you specified a distribution method of FTP, enter the following FTP parameters:

   a. **FTP server** (required). The name of the FTP server that distributes the report. Single quotes and ampersands are not allowed. The default value is the value specified in the ReportCaster configuration file (bkrsched.cfg).

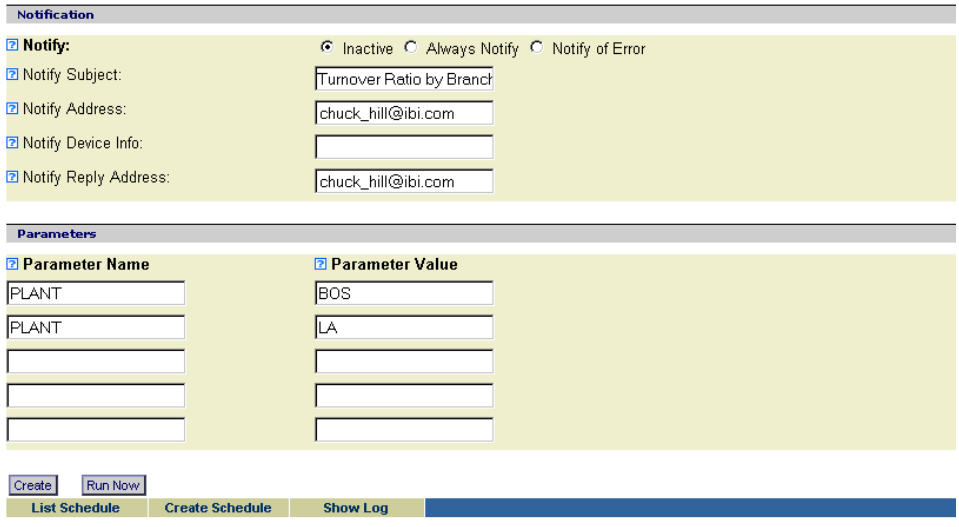
   b. **Location** (required). The destination of the FTP-distributed report. It must be a subdirectory of the FTP server root directory, or an alias defined to the FTP server. Single quotes and ampersands are not allowed.

   c. **User** (required). The user ID authorized for FTP transfer. Single quotes and ampersands are not allowed. The default value is the value specified in the ReportCaster configuration file (bkrsched.cfg).

   d. **Password** (required). The password associated with the user ID authorized for FTP transfer. Single quotes and ampersands are not allowed. The default value is the value specified in the ReportCaster configuration file (bkrsched.cfg).

   e. **Index file name** (optional). The name of the FTP index file for a bursted report. The first character must be alphanumeric, and the default value is HOLD.

8. Scroll to the Notification section and enter the notification parameters:



a. **Notify** (required). The notification of job status. Possible values are:

Inactive (no notification is sent).

Always Notify (notification is always sent).

Notify of Error (content of the log is sent on an error condition).

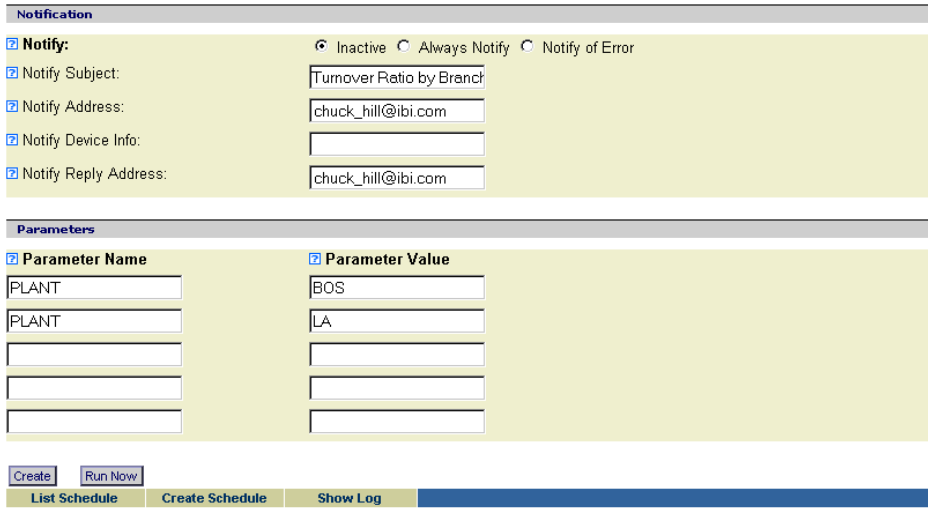
b. **Notify Subject** (optional). The content or purpose of the notification message. Single quotes and ampersands are not allowed.

c. **Notify Address.** Required if Notify is set to Always Notify or Notify of Error. It is the e-mail address of the person who will receive full notification (complete log report).

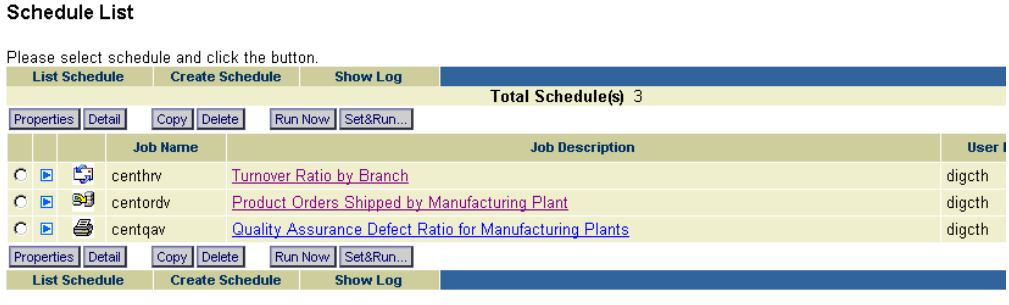
d. **Notify Device Info** (optional). For a device other than e-mail.

e. **Notify Reply Address.** Required if Notify is set to Always Notify or Notify of Error. It is the e-mail address for return mail (the response to the notification message). Single quotes and ampersands are not allowed, and an @ character must be included.

9. Scroll to the Parameters section and enter the optional parameter names and values to pass to the scheduled job for each parameter name. The values are assigned to variables in the scheduled job and used at run time.



10. Click *Create* (runs rcaster_create.jsp) or *Run Now* (runs rcaster_runonce.jsp). The Schedule List displays as follows:



Note:

- When you click *Create*, the report job runs and an entry is created in BOTSCHED and BOTLOG.
- When you click *Run Now*, the report job runs and an entry is created only in BOTLOG.

Schedule List

You can view schedules that you have created by clicking *List* (runs rcaster_list.jsp) in the Schedule section of the JSP Samples. The Schedule List window displays:

Note: You can also access the Schedule List window by clicking the *Update*, *Delete*, *Copy*, or *Run Now* links in the Schedule section of the JSP Samples.

The following options are available in the Schedule List window. You can:

- Use the radio button to select a specific schedule. Then click the desired action button (*Properties*, *Detail*, *Copy*, *Delete*, *Run Now*, *Set&Run*).
- Click *Create Schedule* (runs rcaster_newschedule.jsp) to create a schedule.
- Click *Show Log* (runs rcaster_loglist.jsp) to run the log summary report for a report you have selected (for example, Turnover Ratio by Branch).
- Click *Properties* (runs rcaster_property.jsp) to view the properties of a report you have selected (for example, Turnover Ratio by Branch). The Schedule Property window displays:

Schedule Property

Please click the button.

List Schedule | Create Schedule | Show Log

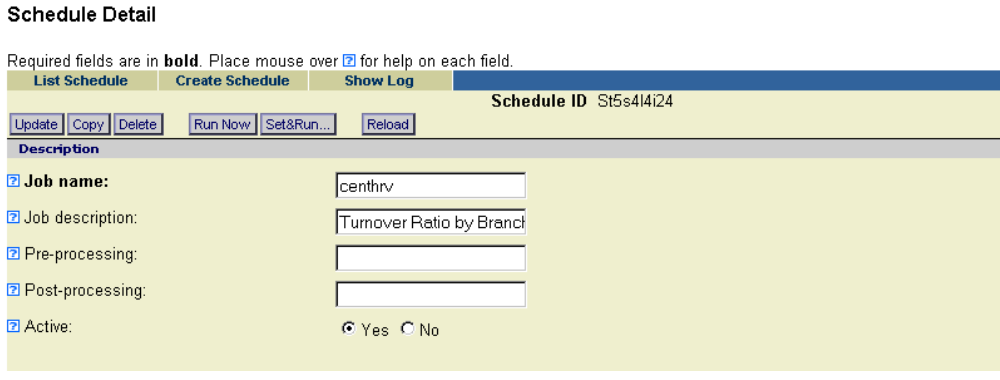
Schedule: Turnover Ratio by Branch

Detail | Copy | Delete | Run Now | Set&Run... | Reload

Schedule ID	St5s4l4i24
Job Name	centhrv
Job Description	Turnover Ratio by Branch
Active	YES
User Name	digcth
Next Run Time	Thu, Oct 11, 2001 04:11 PM EDT
Focexec Origin	Server
Send Method	Email
Address Type	Single File
Address	chuck_hill@ibi.com
Priority	3
By Field	N
Send Format	HTML
Interval Type	Day

List Schedule | Create Schedule | Show Log

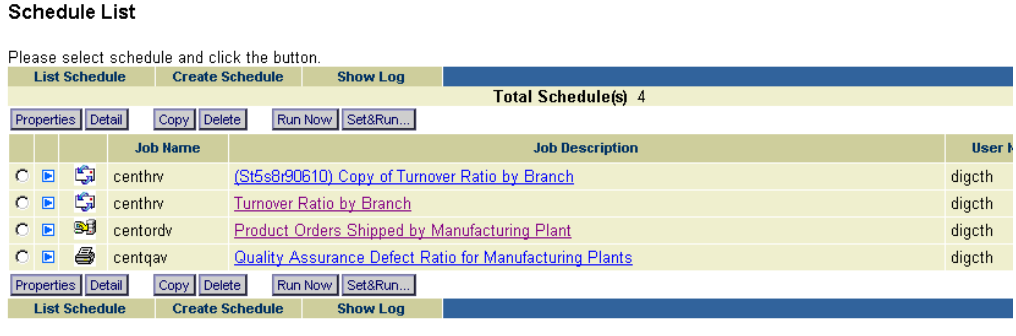
- Click *Detail* (runs rcaster_detail.jsp) to view the schedule details of a report you have selected (for example, Turnover Ratio by Branch). The Schedule Detail window displays:



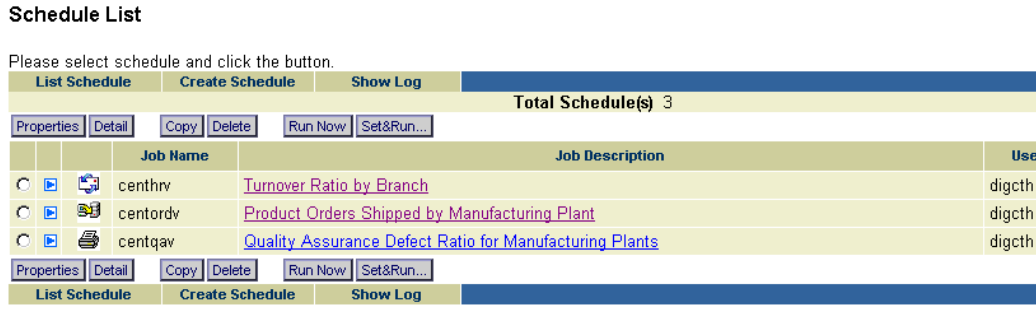
On the Schedule Detail window, you can:

- Make changes to your report request and click *Update* (runs rcaster_update.jsp) to reflect these changes.
- Click *Reload* (runs rcaster_detail.jsp). This is useful if you have made incorrect changes and would like to refresh your schedule detail window so that it displays the original data.

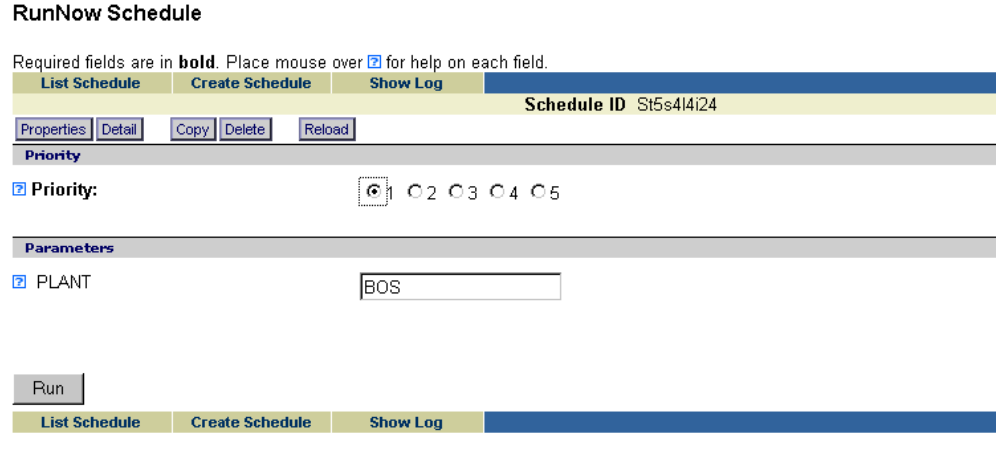
- Click *Copy* (runs rcaster_copy.jsp) to copy a report you have selected (for example, Turnover Ratio by Branch). The Schedule List window displays with the additional copied report:



- Click *Delete* (runs rcaster_delete.jsp) to delete the selected report (for example, Copy of Turnover Ratio by Branch). The Schedule List window displays without the selected report:



- Click *Run Now* (runs rcaster_run.jsp) to run the selected report (for example, Turnover Ratio by Branch). This creates an entry in the BOTLOG table.
- Click *Set&Run* (runs rcaster_setrun.jsp)**.** The RunNow Schedule window displays:



You can then select the Priority of the schedule (1 is the highest and 5 is the lowest), enter optional parameters, and click *Run* (runs rcaster_run.jsp) to run the report.

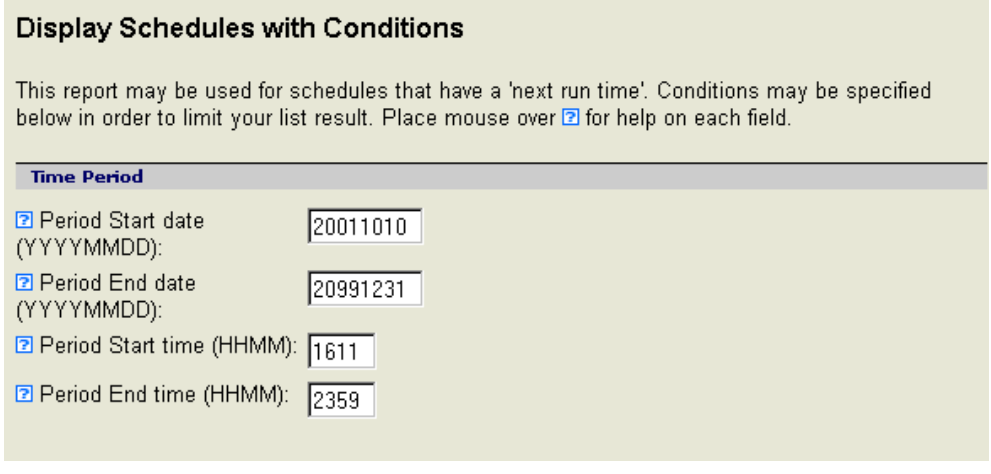
JSP Reports

This section describes how to run the following reports:

- **Conditional Schedules.** This report allows you to get a list of schedules for a specific set of conditions. The schedules must have a 'next run time' greater than the current time.
- **Log Summary.** This report provides a list of schedules that have run.

Procedure How to Run a Conditional Schedules Report

1. Click *Conditional Schedules* (runs rbaschclist.htm) in the Reports section of the JSP Samples. The Display Schedules with Conditions window displays:



Important: You can enter any combination of the following optional parameters to produce your desired report. If you do not specify any parameters, all schedules that have a 'next run time' will display. All text fields are case sensitive, and must be entered in the same exact case as when the schedule was created. In this procedure, parameters have been entered for the Turnover Ratio by Branch schedule.

2. Enter the following optional time period parameters:

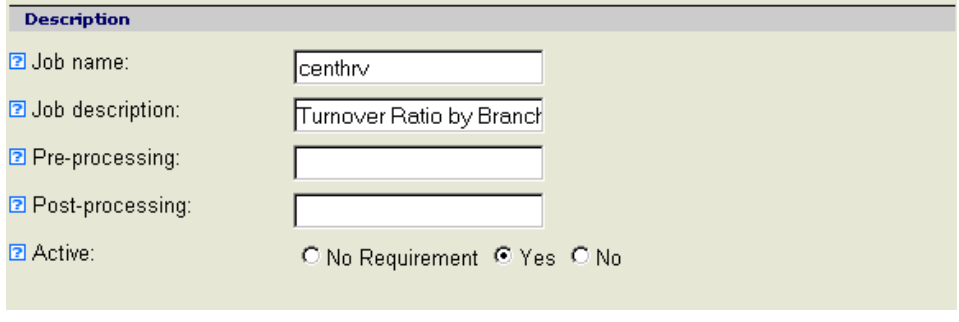
   a. **Period Start date (YYYYMMDD).** The date of first report execution and distribution, in the format *YYYYMMDD*, where *YYYY* is the 4-digit year, *MM* is the month, and *DD* is the day of the month. The report will display schedules with a 'next run time' on or after the date specified.

   b. **Period End date (YYYYMMDD).** The date of last report execution and distribution, in the format *YYYYMMDD*, where *YYYY* is the 4-digit year, *MM* is the month, and *DD* is the day of the month. The report will display schedules with a 'next run time' on or before the date specified.

   c. **Period Start time (HHMM).** The time of first report execution and distribution, in the format *HHMM*, where *HH* is the hour and *MM* is the minute. The report will display schedules with a 'next run time' on or after the time specified.

   d. **Period End time (HHMM).** The time of last report execution and distribution, in the format *HHMM*, where *HH* is the hour and *MM* is the minute. The report will display schedules with a 'next run time' on or before the time specified.

3. Scroll to the Description section and enter the description parameters:



   a. **Job name.** The name of the report request.

   b. **Job description.** A unique, user-supplied description for the report request (job).

   c. **Pre-processing.** The name of a procedure and its parameter string that ran prior to the scheduled report request.

   d. **Post-processing.** The name of a procedure and its parameter string that ran after the scheduled report request.

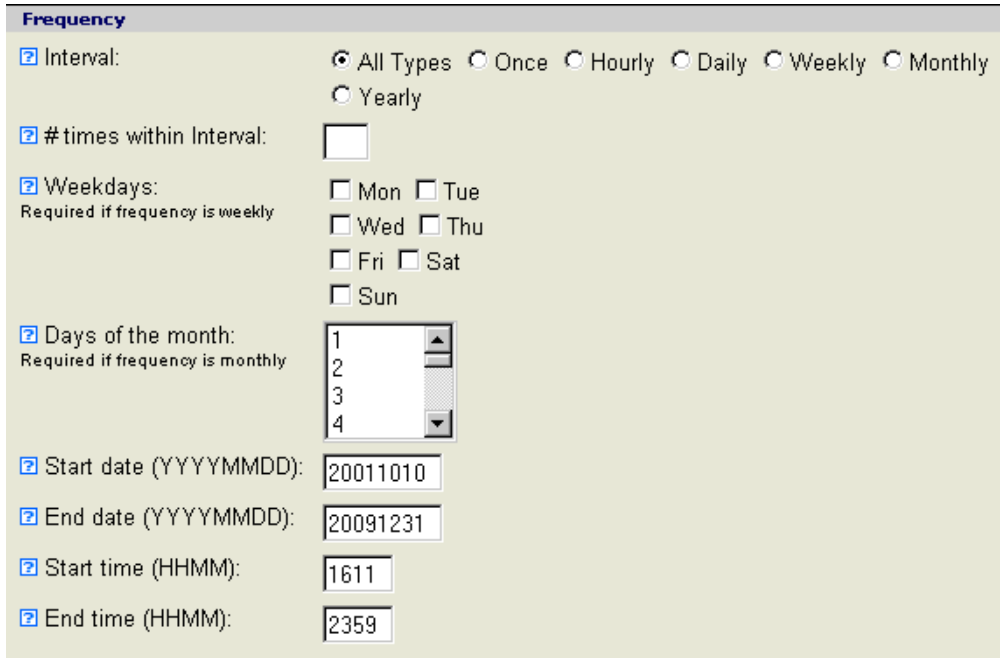
   e. **Active.** Denotes the status of a report request. Possible values are:

      No Requirement (Active or Inactive).

      Yes (Active).

      No (Inactive).

4. Scroll to the Frequency section and enter the frequency parameters:



a. **Interval.** The period of time (the interval) on which report execution and distribution are based. Possible values are:

All Types

Once

Hourly

Daily

Weekly

Monthly

Yearly

b. **# times within interval.** The number of times you want to run your report within the interval specified.

c. **Weekdays.** The day of the week the report request will run.

d. **Days of the month.** The day of the month the report request will run.

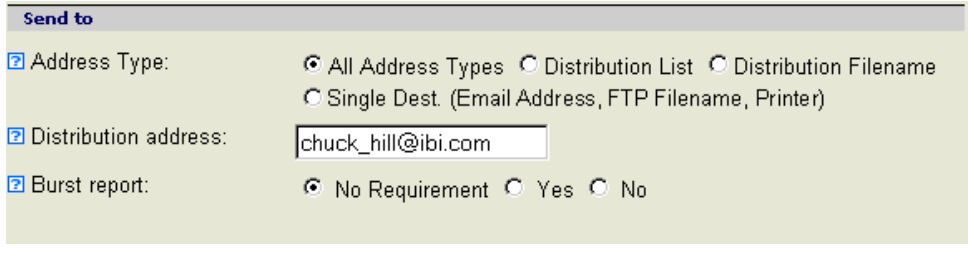
e. **Start date (YYYYMMDD).** The date of first report execution and distribution, in the format *YYYYMMDD*, where *YYYY* is the 4-digit year, *MM* is the month, and *DD* is the day of the month.

f. **End date (YYYYMMDD).** The date of last report execution and distribution, in the format *YYYYMMDD*, where *YYYY* is the 4-digit year, *MM* is the month, and *DD* is the day of the month.

g. **Start time (HHMM).** The time of first report execution and distribution, in the format *HHMM*, where *HH* is the hour and *MM* is the minute.

h. **End time (HHMM).** The time of last report execution and distribution, in the format *HHMM*, where *HH* is the hour and *MM* is the minute.

5. Scroll to the Send to section and enter the send to parameters:



a. **Address Type.** Select one of the following distribution method options:

All Address Types.

Distribution List.

Distribution Filename.

Single Destination (single e-mail address, single FTP file name, or a single printer).

b. **Distribution address.** You can specify a particular Distribution List, distribution file name, single e-mail address, FTP file name, or printer. For example, chuck_hill@ibi.com is a single e-mail address.

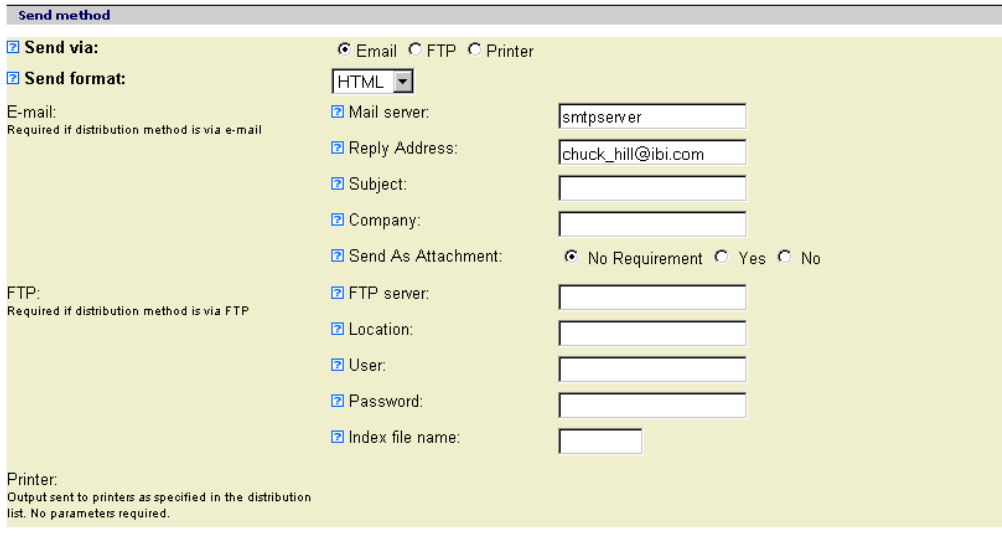
c. **Burst Report.** Possible values are:

No Requirement (burst and no burst).

Yes (burst).

No (no burst).

6. Enter the following Send method parameters:



a. **Send via.** The distribution method. Possible values are e-mail, FTP, or to a printer.

b. **Send format.** The format of your report. Possible values are:

WP for plain text.

HTML for hypertext (recipient must have a browser in order to view).

PS for PostScript (recipient must have a GhostView application in order to view).

DOC for plain text with ASCII page breaks.

PDF for Adobe Acrobat PDF format (recipient must have Adobe in order to view).

EXCEL (recipient must have EXCEL in order to view).

EXL2K (recipient must have EXCEL 2000 in order to view).

WK1, a Lotus 1-2-3 spreadsheet format.

7. Enter the following e-mail parameters:

a. **Mail server.** The mail server that distributes the report.

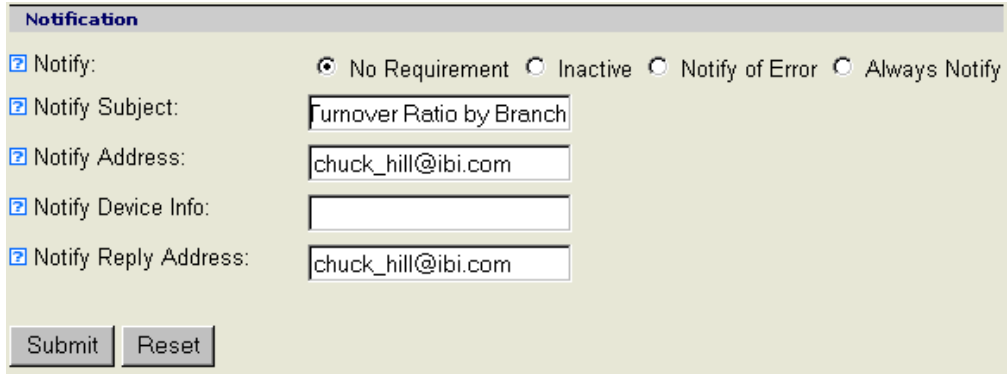
b. **Reply Address.** The e-mail address for return mail (the reply address).

c. **Subject.** The content or purpose of the e-mail.

d. **Company.** The company that the sender is associated with.

e. **Send As Attachment.** Specifies whether to send the e-mail with no requirements (No Requirement), as an attachment (Yes), or within the body of the e-mail (No).

8. Enter the following FTP parameters:
   a. **FTP server.** The name of the FTP server that distributes the report.
   b. **Location.** The destination of the FTP-distributed report.
   c. **User.** The user ID authorized for FTP transfer.
   d. **Password.** The password associated with the user ID.
   e. **Index file name.** The name of the FTP index file for a bursted report.
9. Scroll to the Notification section and enter the notification parameters:



   a. **Notify.** Notification of job status. Possible values are:

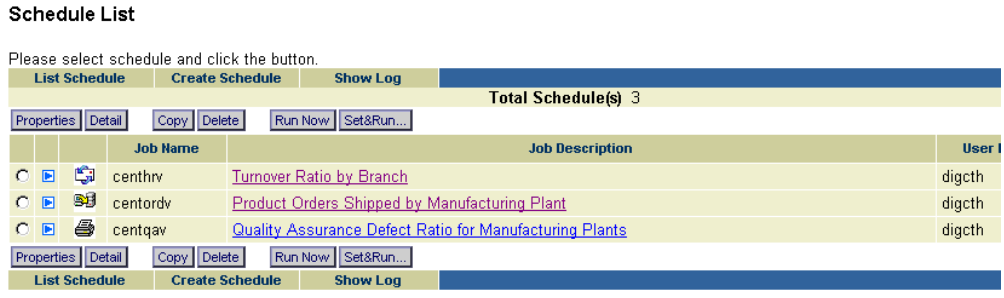
      No Requirement (includes Inactive, Notify of Error, and Always Notify).

      Inactive (no notification is sent).

      Notify of Error (content of the log is sent on an error condition).

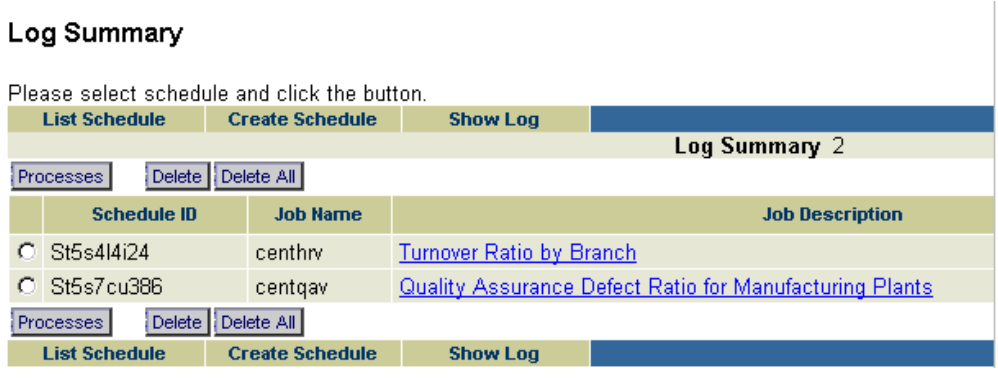
      Always Notify (notification is always sent).
   b. **Notify Subject.** The content or purpose of the notification message.
   c. **Notify Address.** The e-mail address of the person who will receive full notification (complete log report).
   d. **Notify Device Info.** For a device other than e-mail.
   e. **Notify Reply Address.** The e-mail address for return mail (the response to the notification message).

10. Click *Submit* (runs rcaster_clist.jsp) to run the report. The Schedule List displays as follows:



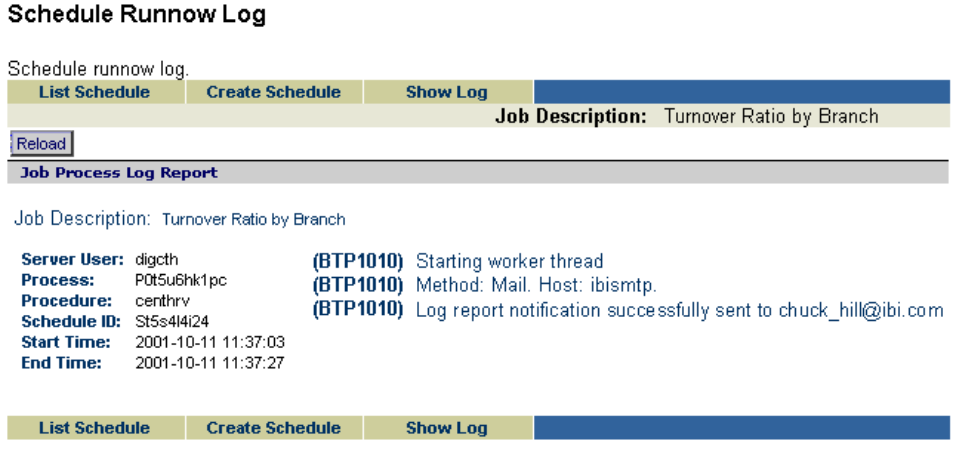
Procedure How to Run a Log Summary Report

1. Click *Log Summary* (runs rcaster_loglist.jsp) in the Reports section of the JSP Samples. The Log Summary window displays:



2. To view the processes of a schedule, select the schedule (for example, Turnover Ratio by Branch) and click *Processes* (runs rcaster_logplist.jsp). The Processes in Log window displays the Process ID, Start Time, and End Time of the selected schedule:

   a. Click *Show* (runs rcaster_runnowlog.jsp) to display the Schedule Runnow Log window for a selected Process ID (for example, P0t5u6hk1pc):



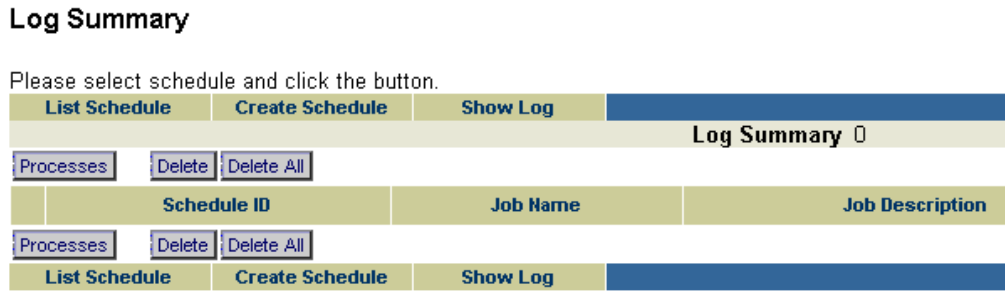
   Note: You can also display the Schedule Runnow Log window by clicking on the process ID (for example, P0t5u6hk1pc). This runs rcaster_logplist.jsp.

   b. Click *Delete* (runs rcaster_logpdelete.jsp) to delete a selected Process ID.

   c. Click *Delete All* (runs rcaster_logpdelete.jsp to delete all Process IDs.

3. To delete a scheduled job (for example, Turnover Ratio by Branch) from the Log Summary report, select the Schedule ID of that job and click *Delete* (runs rcaster_logdelete.jsp).

4. To delete all scheduled jobs from the Log Summary report, click *Delete All* (runs rcaster_logdelete.jsp). The Log Summary window displays without any reports:



Two-Way Email API

The following new features concern Two-Way Email API authentication and customization, as well as accessing and editing sample Two-Way Email API JavaServer Pages™ (JSP™).

Authentication. The Two-Way Email API authenticates users the same way as the ReportCaster Bean API. For more information, see the *ReportCaster and Two-Way Email API for Self-Service Applications* manual.

Customization. You can customize the content of the Two-Way Email API Event Log by editing the Event Log setting in the ReportCaster Server configuration file. This setting controls what Two-Way Email inbox events should be logged. Possible values are:

- ON displays all events.
- ERROR displays only errors.
- OFF turns off the Event Log. Nothing displays.

You may edit the ReportCaster Server configuration file using the ReportCaster Server Configuration tool. For more information, see see Chapter 8, *ReportCaster Server Configuration*, in the *ReportCaster Development and Administration Manual*.

Two-Way Email API JavaServer Pages:

To access the sample Two-Way Email API JavaServer Pages, enter the following URL:

```
http://hostname/rcaster/twoway/selfservice/twlogon.jsp
```

where:

`hostname`

Is the name of the ReportCaster Distribution Server.

To edit the sample Two-Way Email API JavaServer Pages, go to the directory where the Web application is deployed or referenced by your servlet engine or application server.

CHAPTER 7

WebFOCUS Client Console

Topics:

- Accessing the WebFOCUS Client Console
- Configuring WebFOCUS Reporting Server Settings
- Configuring WebFOCUS Settings
- WebFOCUS Client Tracing

The WebFOCUS Client Console enables you to remotely manage your WebFOCUS environment. Using the WebFOCUS Client Console, administrators can navigate through and change the various configuration settings for the WebFOCUS Client. For example, administrators can modify default global settings, which are now located in cgivars.wfs instead of ibidir.wfs. Additionally, administrators can use the console to create WebFOCUS Client node profiles for each WebFOCUS Reporting Server.

Accessing the WebFOCUS Client Console

You can access the WebFOCUS Client Console in one of two ways:

- Select *WebFOCUS52* and then *WebFOCUS Client Console* from the Start Programs menu.

  or

- Enter the following URL:

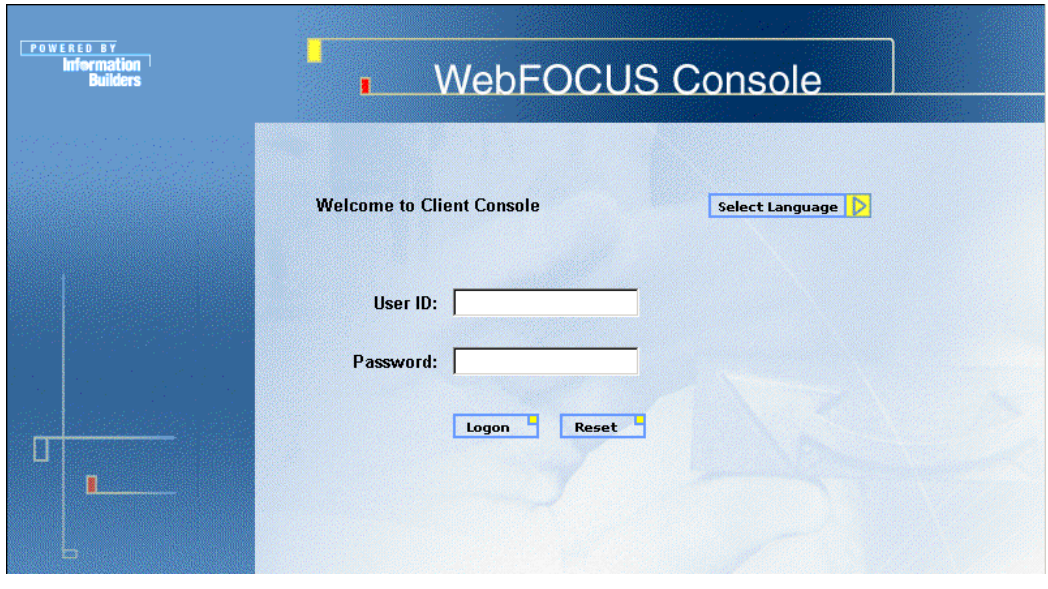
  `http://hostname/ibi_html/wfconsole.htm`

  where:

  hostname

  Is the host name of the machine on which the WebFOCUS Client is installed.

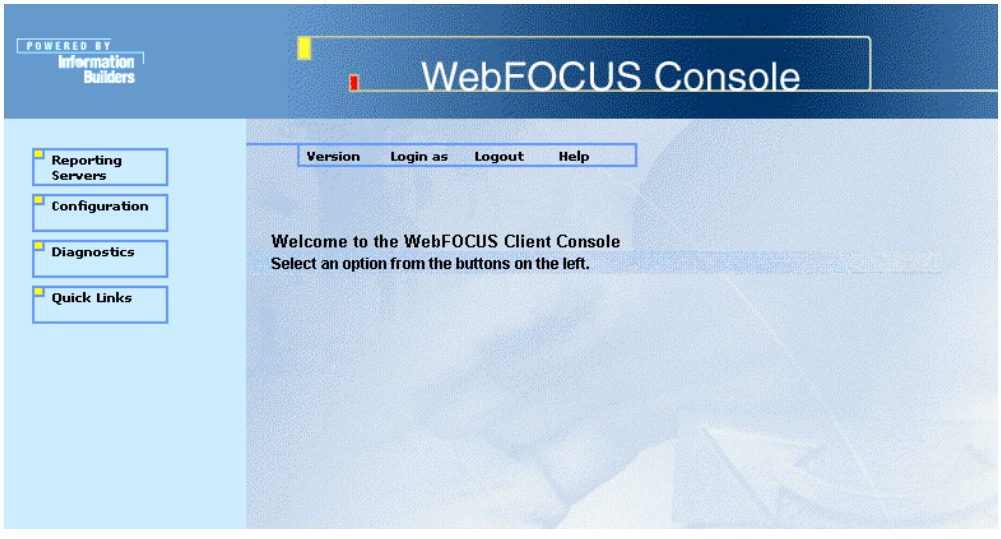
The WebFOCUS Client Console logon screen opens:



Specify a valid user ID and password. If you are logging on to the WebFOCUS Client Console for the first time, log on by specifying the admin user ID. Once you have successfully logged on, you can change the type of authentication and IDs used for all subsequent logons by specifying values in the IBIWFC_Authentication, ADMINISTRATORS, and DEVELOPERS settings in the ibiweb.cfg file. Developers may only access the tracing and Quick Links options in the WebFOCUS Client Console.

To view the WebFOCUS Client Console using a different language, click Select Language to display the available languages specified during the WebFOCUS installation. If no languages were selected during the installation, the Select Language option does not display.

After a successful logon, the welcome window opens:



Configuring WebFOCUS Reporting Server Settings

You can use the WebFOCUS Client Console to:

- Add or change server settings in the ibi/client52/wfc/etc/odin.cfg file.
- Configure Deferred Server Mappings.

Adding or Changing Server Settings

Administrators can use the WebFOCUS Client Console to add WebFOCUS Reporting Servers and HTTP Listeners to the WebFOCUS environment. Additionally, the console can be used to add WebFOCUS Client node profiles for each WebFOCUS Reporting Server. The nodes are added to the ibi/client52/wfc/etc/odin.cfg file.

Procedure How to Add a New Node to ODIN.CFG

1. Click *Reporting Servers* and then *Remote*.
2. Click *New*.
3. In the NODE field, specify the node name.
4. Specify the Node class (Client or Cluster).
5. Click *Next*.
   - If you selected Client in step 4, proceed to step 6.
   - If you selected Cluster in step 4, proceed to step 7.
6. The New Node block window opens. Enter the following required parameters:
   a. **PROTOCOL.** Rules for communicating between nodes (for example, TCP).
   b. **SERVICE.** Service (port number) or name.
   c. **HOST.** Name or IP address of the server.
   d. **CLASS.** Purpose of the node. For example, CLIENT or CLUSTER.

   Note: You can also specify the following optional parameters:
   - **COMPRESSION.** Turns on data compression. Codes are: 0 (off) and 1 (on).
   - **ENCRYPTION.** Sets data encryption ability.
   - **CONNECT_LIMIT.** Number of seconds the client will hold the pending connection. This is useful in a cluster deployment to avoid a lengthy delay of failover response. Other possible values are 0 (no wait) and -1 (infinite wait). The default value is -1.
   - **MAXWAIT.** <query wait>[,<row wait>]. Time the client waits before timeout. The first number is the return time for any row. The second number (optional) is the return time for rows beyond the first row. Time is expressed in seconds.
   - **DESCRIPTION.** Description for the client.

   Proceed to step 8.
7. If you selected Cluster in step 4, the New Cluster Node block window opens. Enter the following required parameters:
   a. **ALTERNATE.** Select the alternate servers to be included in the cluster.
   b. **DESCRIPTION.** Description for the cluster.
   c. **LICENSE.** License key. If a license key has not already been specified, add a license key that will enable the cluster feature.
8. Click *Save*.

Procedure How to Change a Node

1. Click *Reporting Servers* and then *Remote*.
2. Select the node you want to change.
3. Once you select the node you want to modify, click one of the following buttons:
   - **Modify.** Displays the settings for the selected node, enabling you to make changes.
   - **Remove.** Deletes the selected node. You will receive a message asking for you to confirm the deletion.
   - **Profile.** Enables you to override WebFOCUS default settings for a specific WebFOCUS Reporting Server node. These settings will be written to *node*.prf, where *node* is the node you selected in step 2.
   - **Server Console.** Displays the WebFOCUS Reporting Server Console, which enables you to remotely manage your server environment. For more information, see the *iWay Server Administration for UNIX, Windows, OpenVMS, OS/400, OS/390, and z/OS* manual.

Configuring Deferred Server Mappings

You can configure alternate server nodes for use with Managed Reporting's deferred receipt feature. For more information about deferred receipt, see the *WebFOCUS Managed Reporting End User's Manual*.

Procedure How to Configure an Alternate Server Node

1. Click *Reporting Servers* and then *Deferred Server Mappings*.
2. Click *New*.
3. Select your primary WebFOCUS Reporting Server using the Select Server drop-down list, which displays all nodes specified in the ibi/client52/wfc/etc/odin.cfg file.
4. Select your deferred WebFOCUS Reporting Server using the Select Deferred Server drop-down list, which displays all nodes specified in the ibi/client52/wfc/etc/odin.cfg file (excluding the server you just specified as the primary server).
5. Click *Save*.

Configuring WebFOCUS Settings

You can use the WebFOCUS Client Console to:

- Configure WebFOCUS startup parameters in the ibiweb.cfg file.
- Change WebFOCUS Client settings in the \ibi\client52\wfc\etc\cgivars.wfs file.
- Customize WebFOCUS Client settings in the \ibi\client52\wfc\etc\site.wfs file.
- Configure settings for Quick Links.

Configuring WebFOCUS Startup Parameters

The initial configuration file loaded by the WebFOCUS Client or servlet is ibiweb.cfg. It is used to locate WebFOCUS Script (WFS) files. It also, optionally, can be used to set tracing options, encrypt the WebFOCUS user cookie, and set the appropriate alias to load either the WebFOCUS or WebFOCUS Maintain CGI if the alias is different from the default.

The WebFOCUS installation program only inserts edaconf, ADMINISTRATORS, DEVELOPERS, and the application executable settings into ibiweb.cfg. All additional settings must be added using the WebFOCUS Client Console. To add and change settings in the ibiweb.cfg file, click Configuration and then Startup Parameters.

The following new settings may be added, modified, or deleted in the ibiweb.cfg file:

Setting	Usage	Notes
`IBIWFC_Authentication= [EDA | EDA:`*`EDANODE`*` | WEB]`	`[EDA | EDA:`*`EDANODE`*` | WEB]` Optionally specifies the authentication method used to verify the administrator or developer user IDs.	The default value is NONE. To indicate authentication against a particular EDANODE, set the parameter value as *EDA:EDANODE*. Only one EDANODE may be listed. The WEB setting indicates Web server authentication. If no authentication is desired, do not set a value for this parameter.

Setting	Usage	Notes
DEVELOPERS = *dev1;dev2*	*dev1*;*dev2* Are the user IDs that can issue application commands. For more information about application commands, see the *Developing Reporting Applications* manual.	A default value can be set during the Developer Studio installation. If set during the Developer Studio installation, this user ID must be a user ID that can connect to a WebFOCUS Reporting Server. This setting replaces the app_admin setting in ibidir.wfs. Authentication for a developer is applied in the same manner as for an administrator (for more information, see the ADMINISTRATORS setting).

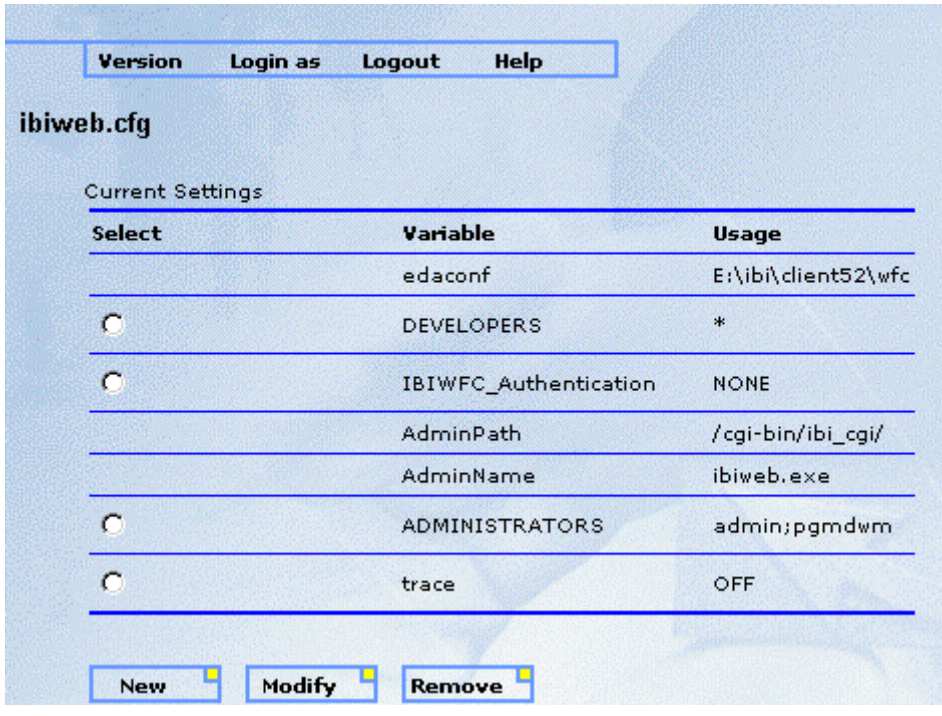
Setting	Usage	Notes
ADMINISTRATORS = *admin1*;*admin2*	*admin1*;*admin2* Are the user IDs that can issue configuration commands and application commands. For more information about valid application commands, see the *Developing Reporting Applications* manual.	The default is admin. If IBIWFC_Authentication is set to EDA and an EDANODE has not been specified, then any user IDs stored in the ADMINISTRATORS parameter must be able to connect to the default WebFOCUS Reporting Server (IBI_REPORT_SERVER). If an EDANODE has been specified, then any user IDs stored in the ADMINISTRATORS parameter must be able to connect to that EDANODE. If IBIWFC_Authentication is set to WEB, then any user IDs stored in the ADMINISTRATORS parameter must be able to connect to the Web server specified in the WebFOCUS configuration. If IBIWFC_Authentication is not set in ibiweb.cfg, then any user ID can be stored as an administrator.

Setting	Usage	Notes
`AdminPath = appexec`	`appexec` Is the alias (virtual directory) or mapping (context path) on the Web server or servlet engine to the application executables.	Values are: • ibi_apps (WF Servlet). This is the default. • cgi-bin/ibi_cgi (CGI or ISAPI). These values cannot be changed using the WebFOCUS Client Console. To change this value, you must manually edit this parameter in ibiweb.cfg. Administrators must also change these values in ibi/WebFOCUS52/ibi_html/javaassist/cgipath.js.

Adminname=[WFServlet | ibiweb.exe | webapi.dll]	[WFServlet | ibiweb.exe | webapi.dll]
	Is the actual name of the WebFOCUS Client executable programs.
		`WFServlet`
		Is the executable for the WebFOCUS Servlet.
		`ibiweb.exe`
		Is the executable for the WebFOCUS CGI.
		`webapi.dll`
		Is the executable for the WebFOCUS ISAPI.
		These values cannot be changed using the WebFOCUS Client Console. To change this value, you must manually edit this parameter in ibiweb.cfg. Administrators must also change these values in ibi/WebFOCUS52/ibi_html/javaassist/cgipath.js.

Example Configuring IBIWEB.CFG

The following example depicts configuration settings that might appear in ibiweb.cfg:



Changing WebFOCUS Client Settings

All default global settings generated by installing WebFOCUS can be found in \ibi\client52\wfc\etc\cgivars.wfs. To change the default global settings in the cgivars.wfs file, click Configuration and then Client Settings. The settings in the cgivars.wfs file appear. Make the necessary changes to the file and then click Save.

The following new settings in cgivars.wfs may be changed:

Settings	Description
APPROOT	Location of the Application Namespace root directory. The default directory is *installationdrive*\ibi\apps, and the default application installed under the default APPROOT path is IBISAMP.
DISPLAY	Points to where the X-Windows server is located. This displays Server-Side Graphics on UNIX.
IBIJAVACMD	Points to where the Java Virtual Machine (JVM) is located in order to execute Java language-based programs such as Server-Side Graphics.
WF_SIGNON_MESSAGE	Points to the HTML page that opens after a successful signon occurs.
IBIF_internal_xsl	Holds the URL to the XSL document used to transform the XML description of the procedure (which is produced by the WebFOCUS Reporting Server) into another XML document that contains the query information.
IBIF_external_xsl	Holds the URL to the XSL document used to transform the XML document produced by the internal transformation (IBIF_internal_xsl) into the desired final document (HTML form). If the variable is blank, then the resulting document from the internal transformation is sent to the client.
IBIF_webapp	The alias of the Web application.

Settings	Description
IBIF_wfdescribe	Variable for auto prompting. Possible values are: • XMLRUN - An XML document is created describing the amper variables in the procedure, and the procedure is executed. This is the default. • XML - An XML document is created describing the amper variables. • OFF - Turns auto prompting off.
IBIF_xsl	If the original XML document produced by the WebFOCUS Reporting Server was not type SYSFEX, the WebFOCUS Client will not perform internal and external transformations. The WebFOCUS Client will instead perform one transformation using the XSL document pointed to by the URL stored in this variable. This is blank by default.
IBIWF_language	The language in which your WebFOCUS environment is running.
WF_AUTOSIGNON	Auto prompting of server credentials. By default, this is set to Y. To disable, set to N.
IBI_RES_ANALYZER	Specifies whether WebFOCUS Resource Analyzer is installed.
IBIF_persistentamp	Turns on the persistent && feature. By default, this is set to yes. To disable, set to no.

Customizing WebFOCUS Client Settings

You can customize the default global settings for WebFOCUS using the \ibi\client52\wfc\etc\site.wfs file. You would use site.wfs to override cgivars.wfs for a specific user or request.

To override the default global settings in the cgivars.wfs file, click Configuration and then Custom Settings. The settings in the site.wfs file appear. Make the necessary changes (after the <VER 1> tag) and then click Save.

The following new setting may be added to site.wfs:

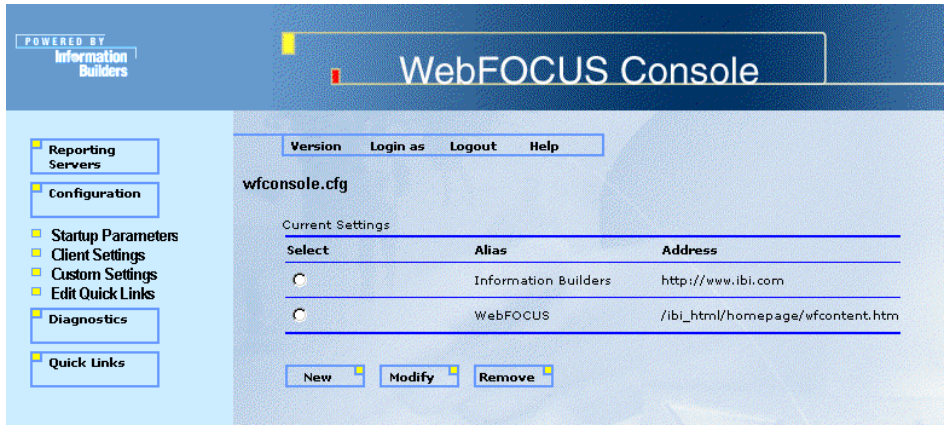
- **SIGNON_CORRECT.** The HTML page that opens after a successful signon.

Configuring the WebFOCUS Client Console for Quick Links

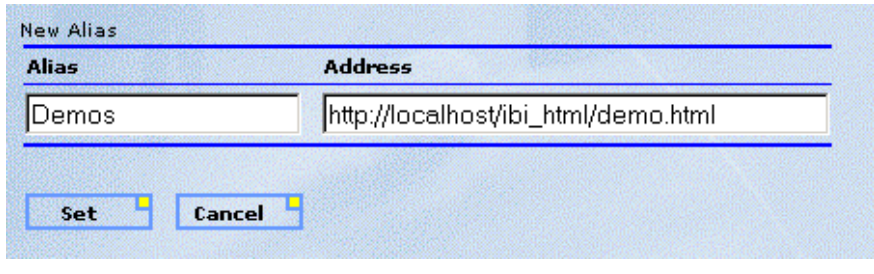
The Edit Quick Links option in the WebFOCUS Client Console enables administrators to add shortcuts (quick links) to HTML pages that are available in your WebFOCUS environment. For example, you may want to set up quick links to run a procedure or ad-hoc request, or to access the WebFOCUS demo applications. These quick links are added to the wfconsole.cfg file, and they are accessible under the Quick Links option in the WebFOCUS Client Console.

Procedure How to Add a Quick Link

1. Click *Configuration* and then *Edit Quick Links*. The options in the wfconsole.cfg file appear:



2. Click *New*. The New Alias window opens:

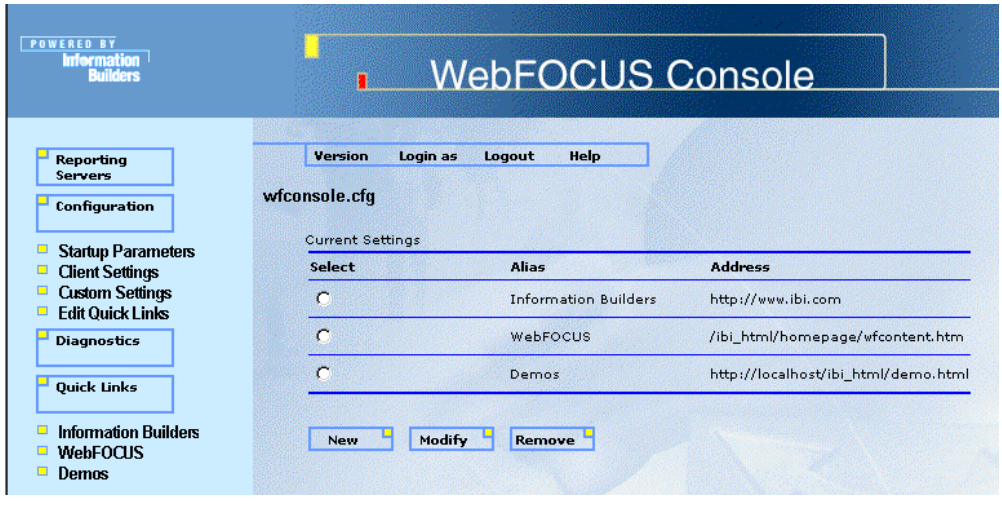


3. In the Alias field, enter the name of the quick link that you want to display under the Quick Links option.
4. In the Address field, specify the location of the HTML page you will be directed to when accessing the quick link.
5. Click *Set*.

   Note: You can also modify or remove quick links as needed.

Example Accessing Quick Links

Once you have added Quick Links using the Edit Quick Links option , you can access the quick links by selecting the Quick Links option in the console. The available Quick Links (for example, Information Builders, WebFOCUS, and Demos) appear:



Click the Quick Link (for example, Demos) you want to access. This will send you to the address you specified for that quick link using the Edit Quick Links option.

Note: Developers may access Quick Links, but only administrators can add or change Quick Links.

WebFOCUS Client Tracing

The Diagnostics option in the WebFOCUS Client Console enables you to view and delete WebFOCUS Client Tracing. In order to view WebFOCUS Client trace files, you must set the trace parameter ON in the ibiweb.cfg file. You must also specify the location where you want the trace files to be sent in ibiweb.cfg.

To view WebFOCUS Client trace files, click Diagnostics and then Client Traces. The current WebFOCUS Client trace files appear:

The Trace File column lists the WebFOCUS generated number identifying each trace, the Size column lists the size in bytes of each trace file, and the Query String column lists the actual request that was sent to the WebFOCUS Client. You can view or delete a trace file by selecting the trace file and then clicking the appropriate action button (View, Delete, or Delete All).

CHAPTER 8

Developer Studio

Topics:

- New Architecture
- Enhanced Explorer
- Project Wizard
- Date Format and Time Display Options
- Redesigned Deploy Wizard
- Dimension Tool
- Comma Suppress Edit Format Option
- Percent Edit Format Option
- Synonym Enhancements
- Viewing Reports in Your Browser
- Creating Reports With the Report Painter
- Financial Report Painter Enhancements
- Displaying Compound Reports in PDF and PS Format
- Excel Integration Enhancements
- Designing a User Interface With the Report Layout Painter
- Source File Management

These topics describe new features that apply specifically to Developer Studio.

New Architecture

Choose the Developer Studio environment that meets your development needs.

If you install a WebFOCUS Reporting Server during the Developer Studio installation procedure, you can:

- Locally develop and deploy self-service applications.

  One option for local development and deployment requires installation of a WebFOCUS Reporting Server on the same machine as Developer Studio. The files that you create for a local project reside in a subdirectory on the WebFOCUS Reporting Server under APPROOT.

- Connect to one or more remote servers and modify existing self-service applications on those servers. For example, you can add a reporting procedure to an existing application.

- Configure access to one or more WebFOCUS environments so that you can manage resources on the Web server, Reporting Server(s), and in the Managed Reporting repository (if installed). From the environment tree you can create and edit procedures, metadata, HTML files, and more.

If you do not install a WebFOCUS Reporting Server during the Developer Studio installation procedure, your environment allows the last two capabilities.

For more information, see Chapter 3, *Creating a Reporting Application*, in *Developing Reporting Applications*.

Enhanced Explorer

In the Explorer, you can:

- Copy and paste a procedure within a single project. The copied procedure is identified as "Copy of *procedure_name*."
- Enter a long procedure name in the Add Procedure dialog box. The name is no longer restricted to eight characters.
- Add a virtual folder to a project, or add a virtual subfolder to an existing folder (for example, an HTML Files or Master Files folder).
- Customize the file types displayed in any folder.
- Right-click to rename a component such as a folder, subfolder, HTML file, Master File, or procedure.
- Permanently remove a file (for example, a procedure) from the hard drive by deleting it from the associated project.

In addition, the Project Properties dialog box has been expanded so that you can select a deployment scenario, customize the items displayed under a project folder, and set other project attributes.

For more information, see Chapter 3, *Creating a Reporting Application*, in *Developing Reporting Applications*.

Project Wizard

The Project Wizard allows you to select:

- A folder or folders to add to a project path, using the redesigned Browse for Folder dialog box.

For more information, see Chapter 3, *Creating a Reporting Application*, in *Developing Reporting Applications*.

Date Format and Time Display Options

You can now apply date format and time display options to date fields. In previous releases, you could only select different date formats (for example, MDY, DMY, and so on) from the Format dialog box. Developer Studio Version 5 Release 2 features a new Date Formats dialog box, which can be accessed from the Formats dialog box. From the Date Formats dialog box, you can specify valid date formats and select time display options.

For more information, see Appendix A, *Assigning Field Formats,* in *Creating Reports With Graphical Tools*.

Redesigned Deploy Wizard

Deploying a project is the process of copying project files to a Web server and a WebFOCUS Reporting Server so the application can run on the Web and be accessed by other users. HTML forms are used to launch the application in the Web environment. The Deploy Wizard guides you through the process of creating a configuration that manages the deployment of your project files to the Web. In Developer Studio Version 5 Release 2, you can take advantage of the following enhancements to the Deploy Wizard:

- **Multiple deployment scenarios.** You can define multiple deployment scenarios and save them for future deployment. A deployment scenario includes the partitioning of the project files and the selection of servers. For example, you might have two deployment scenarios for a project, one that maps the files to a production server, and another that maps the files to a test server.
- **Consolidated deployment tool for Developer Studio and Maintain**. The Developer Studio and Maintain environments now have a consolidated deployment tool.
- **Deployment to multiple servers**. You can deploy your project files to multiple WebFOCUS Reporting or Maintain servers. This enhancement enables you to access data on multiple servers, run your report components in the most suitable environment, and speed up your application processing. It also enables greater control of access to your reporting applications.

This feature is relevant if you develop WebFOCUS reporting applications or WebFOCUS Maintain applications and are responsible for deploying your application to end users who access it from a Web browser.

For more information, see Chapter 12, *Partitioning and Deploying Project Files,* in *Developing Reporting Applications*.

Dimension Tool

The Dimension Tool is a new feature that enables you to create OLAP hierarchies and dimensions, based on enterprise data for multi-dimensional analysis, without modifying the Master File. The new logical view is saved as part of a procedure. The Dimension Tool works with FOCUS data sources, relational tables, and OLAP-enabled Master Files. You can launch the Dimension Tool from a toolbar.

For more information, see Chapter 4, *Creating a Reporting Procedure,* in *Developing Reporting Applications*.

Comma Suppress Edit Format Option

You now have the ability to suppress the display of commas in a numeric column using the comma suppress edit format option. This option is listed in the Format dialog box, which can be accessed from the Master File Editor, the Report Painter, the Define Tool, or the Compute Tool. It enables you to display numeric and monetary data without commas.

The comma suppress edit format option is available only when a numeric format, such as Decimal (D), Integer (I), Floating (F), or Packed (P), is selected in the Format Types group box.

For more information about using numeric display options, see Appendix A, *Assigning Field Formats*, in *Creating Reports With Graphical Tools*.

Percent Edit Format Option

With the percent edit format option, you can now display a percent sign along with numeric data. This option is listed in the Format dialog box, which can be accessed from the Master File Editor, the Report Painter, the Define Tool, or the Compute Tool. It allows you to display data as percentages.

When you apply this option to a column, a percentage sign is added to the end of the specified column.

The percent edit format option is available only when the following conditions are met:

- The Decimal (D), Integer (I), Floating (F), and Packed (P) formats are selected in the Format Types group box.
- The M (floating dollar sign), N (non-floating dollar sign), or E (scientific notation) edit options are not selected in the Edit Options group box. If you select the M, N, or E options, the percentage edit option becomes disabled.

For more information about using numeric display options, see Appendix A, *Assigning Field Formats*, in *Creating Reports With Graphical Tools*.

Synonym Enhancements

Developer Studio Version 5 Release 2 introduces the Refresh Synonym feature. This feature allows you to recreate a synonym in order to update field information, but it preserves the old synoynym's title, description, usage, virtual field, and DBA information. In previous releases, manual changes made to the Master File could be overwritten after synonym creation. It was also possible that the underlying table on which the synonym was based could be changed after the synonym was created.

The Refresh Synonym feature includes the following options:

Replace

This option recreates the Master File.

Create new…

This option prompts you to provide a name for the new synonym. It can be up to 64 characters but cannot include spaces or special characters. When you choose this option, a new synonym is created based on the name you provide, but the original Master File or Access File is not modified.

You can access the Refresh Synonym feature from either the Projects on localhost area or the WebFOCUS Environments area in the Explorer window. This feature is also available in the Server Console. For more information, see Chapter 3, *Creating Synonyms*, in *Describing Data With Graphical Tools*.

Viewing Reports in Your Browser

Your HTML report output and graphs are now displayed in your browser instead of the Desktop Viewer.

For more information, see Chapter 5, *Viewing and Printing Reports and Graphs*, in *Creating Reports With Graphical Tools*.

Creating Reports With the Report Painter

The Report Painter provides many powerful reporting features that enable you to create and style complex reports. You can graphically paint the report on the Report Painter window, which is a graphical representation of the report page.

In Developer Studio Release 5 Version 2, the Report Painter offers an improved reporting environment, as well as greater functionality. These features are relevant if you are responsible for developing WebFOCUS reporting applications.

For more information about the Report Painter, see Chapter 3, *Creating Reports with the Report Painter*, in *Creating Reports With Graphical Tools*.

Summary of Report Painter New Features

The benefits of using the enhanced Report Painter include the following.

- **Added formatting and styling capabilities.** You can now:
  - Drag the column border until the column is the desired width.
  - Add a border to an entire report, a column, or any object area (for example, Page Heading, Page Footing, Subheading, Subfooting). You can add borders in a variety of line styles, widths, and colors.
  - Style the background color for an entire report, including all column titles and all data components. You can also specify a background color for individual columns and alternating rows.
  - Apply a page color. The report on the page inherits the page color.
  - Insert the current page number and total page count for a report as embedded fields in a report heading or footing.
  - Insert a spot marker. A spot marker divides text in a heading or footing into separate items. You can then individually position and style these items.
  - Align decimal points. You can align decimal points when the displayed data has a varying number of decimal places.
  - Insert the current date. You can now insert the current date as an embedded field in any object area (for example, Page Heading, Page Footing, Subheading, Subfooting) in the Report Painter. Once the date is inserted, you can justify, position, and change the font of the date field.

    You can also specify the date format and a display format for the time. For more information, see *Date Format and Time Display Options* on page 8-3.
  - Select a column component (Title, Data, or Title and Data) and apply styling options (font and font color, grid, border, or background color), using the new Style tab on the Field Properties dialog box. In addition, you can create a condition and apply to it any style available on the Style tab.
  - Copy an existing drill-down component to a column component, using the new Drill Down tab on the Field Properties dialog box. You can also open a child report from this tab for viewing or modification in a new instance of Report Painter.
  - Remove an underline from a column title on a report, using the new General tab on the Field Properties dialog box.

- Enter replacement text using the Output tab. The Output tab on the Report Options dialog box now features a WebFOCUS Title input box. The text you enter into this input box replaces the default text in the Internet Explorer title bar when you run the report in HTML format.

  If you run the report in the EXL2K format, the text in the WebFOCUS Title input box replaces the default Worksheet tab text in Excel 2000.

- Use the Range option in the Variable Editor dialog box. You can now specify a range of values instead of a list of acceptable values when you access the Variable Editor dialog box.

- Use the Display Format option. The Output tab on the Report Options dialog box provides a Display Format drop-down list that allows you to specify output formats such as HTML, PDF, Excel 2000, Excel 2000 Pivot, Excel 2000 Formula, Excel 97, User, and FOCUS default.

- Use new shading patterns and scaling options to improve data visualization. Data visualization is now supported for PDF and PS formats. Although the color option on the Data Visualization dialog box is the default for HTML, PDF, and PS formats, you can now select different shading patterns for PDF and PS formats. The new shading patterns make graphs in black and white reports more readable.

  There are two new options for specifying relative bar graph scaling for multiple report columns under a common Across sort field to which data visualization is applied. Use the Uniform scale option if you want each vertical bar graph to be scaled based on the minimum and maximum values of all values compiled from each Across column. Use the Distinct scale option to specify that each vertical bar graph should be scaled based on the distinct minimum and maximum values for each Across column.

- Apply an external Cascading Style Sheet (CSS) to an HTML report. The Style tab features a Style File Selection button that allows you to apply an external Cascading Style Sheet to an HTML report. You can also assign a Cascading Style Sheet class to a report object in the StyleSheet.

- **Improved WYSIWYG environment.** The Report Painter window now displays the actual position of columns that have been wrapped, truncated, or set to maximum or minimum column width.

- **Enhanced Graphical User Interface (GUI).** You can now align embedded fields in object areas (Page Heading, Page Footing, Subheading, Subfooting) with report columns.

  Note: This feature is available only for HTML reports.

You can:

- Copy style characteristics from one column to other columns using the Quick Style toolbar. You can copy font, grid, background color, conditional styling, or all of these characteristics.
- Launch application components from the Prefix tab in the Object Inspector. The Prefix tab lists the components that precede the report component. Click the component to access the appropriate tool (Define, Join, or Dimension).
- View the Master File structure (segments or fields) from the Fields tab in the Object Inspector. You can drag fields from this tab to the Report Painter window. If you drag a segment, all the fields in the selected segment are added to the report.
- View all the parts of the expression as you build it. With the new Expression Builder, drag and drop the field in the expression and select the logical relation and comparison type from drop-down lists.

- **Improved handling of images.** The Report Painter now:
  - Supports layering for the display of images with other report components.
  - Tiles a background image instead of enlarging the image to fit the background.
- **General functionality improvements.** The Report Painter:
  - Allows you to save a report from the Save button on the General toolbar. The Save button saves all the components in the procedure, not just the report component.
  - Allows a developer to assign a variable as the display format. This feature enables a user to select the report's output format.
- **Calculated trends and predicted values.** You can now calculate trends in data and predict values beyond the range of values stored in the data source with the Forecast feature. The Forecast feature uses averages, or a linear regression line, to distinguish trends and predict values. This is useful for predicting values that may occur beyond the current data set.
- **Apportioned numeric data in tabular reports.** You can now group numeric data into any number of tiles (percentiles, quartiles, deciles, and so on) in tabular reports. For example, you can group student test scores into deciles to determine which students are in the top ten percent of the class.

  Grouping is based on the values in the selected vertical (BY) sort field and is apportioned as equally as possible into the number of tile groups you specify.

- **Navigation of sort groups from a table of contents.** You can now add multiple BY fields to an HTML Table of Contents (TOC). In the previous release, you could only sort on the highest level BY field in a single request. With the implementation of this multi-level feature, the TOC option is now available when you right-click any BY field in your report.

  For this feature to be useful, the report must contain at least one vertical sort (BY) field. If you include more than one sort field in a report, the hierarchy is determined by the order in which the fields are specified in the request. The TOC displays, as hyperlinks, all values of the first (highest level) vertical sort field, as well as the values of any lower level BY fields that you designate for inclusion. Unless otherwise specified in the request, a new page begins when the highest level sort field changes.

  The TOC itself is an object that appears as an icon in the upper left corner of the report, or as one or more drop-down lists in a heading or footing.

- **Check button to run procedures against the default server.** The Check button replaces the Run button that appeared in the Define, Set, Use, Filedef, and Let tools. When you click the Check button, the current procedure is run against the default server. A new dialog box opens. It displays the component's code, and either an error message or text stating that no error exists.

For more information about the Report Painter, see Chapter 3, *Creating Reports with the Report Painter*, in *Creating Reports With Graphical Tools*.

Financial Report Painter Enhancements

The Financial Report Painter and the underlying Financial Modeling Language (FML) have been enhanced to support reporting against a hierarchical data structure, more flexible use of fields in a request, and rows and cell styling from the Financial Report Painter. You can access the Financial Report Painter through the Report Painter.

For more information, see Chapter 10, *Creating Reports With Financial Report Painter,* in *Creating Reports With Graphical Tools*.

Displaying Compound Reports in PDF and PS Format

In addition to being able to combine multiple reports into a single PDF file, you can now concatenate reports into a PS file. The first PDF and PS report defines the format for the concatenated report, enabling you to intersperse intermediate reports of other formats into one encompassing report. You can then run or distribute the report with ReportCaster, which displays the compound PDF report in Adobe Acrobat Reader, or sends the compound PS report directly to a printer. See the ReportCaster documentation for details about this product. Page numbering and headings are automatically supported with NOBREAK.

For more information, see Chapter 7, *Saving and Reusing Report Output*, in *Creating Reports With Graphical Tools*.

Excel Integration Enhancements

The Excel 2000 format (EXL2K) has been enhanced to ensure that all date and numeric formatting is translated to corresponding Excel formats.

- **Displaying Formatted Dates and Numeric Values in Excel 2000.** Excel 2000 spreadsheets generated by WebFOCUS now contain the same numeric formatting as specified in the data source's Master File or as specified in a temporary field. WebFOCUS numeric values and date formats (such as currency and Smart Dates) are translated to supported Excel formats and are displayed properly in Excel 2000.
- **Generating Native Excel Formulas in Excel 2000.** When you display or save a report request using EXL2K FORMULA, the resulting spreadsheet contains an Excel formula that computes and displays the results of any type of summed information (such as column totals, row totals, subtotals, and calculated values), rather than static numbers. Spreadsheets saved using the EXL2K FORMULA format are interactive, allowing for "what if" scenarios that immediately reflect any additions or modifications made to the data.
- **Viewing and Saving a Report in Excel 97 Format.** The EXL97 format allows you to view and save reports in Excel 97. When specifying the EXL97 format, an HTML-based file is generated with an extension of .e97. The appropriate MIME type is automatically assigned to designate Excel as the active application for this file type.

  Format EXL97 is fully compatible with Excel 2000 and Excel 2002.

For more information, see Chapter 7, *Saving and Reusing Report Output,* in *Creating Reports With Graphical Tools*.

Designing a User Interface With the Report Layout Painter

The Report Layout Painter, previously the Layout tool, allows you to graphically create an HTML page that incorporates WebFOCUS forms, reports, graphs, and other Web objects. The Report Layout Painter enables you to add these components to your HTML page in an integrated process within Developer Studio.

In Developer Studio Release 5 Version 2, the functionality of the Report Layout Painter has been improved. You can add WebFOCUS form controls such as radio buttons, text boxes, and single and multiple drop-down lists that allow the user to supply variable values to a report or graph request. The Report Layout Painter now creates these WebFOCUS form controls automatically when you add a variable to a request in the Report Painter. It also allows you to select a dynamic or static list of values that the user may choose from.

In addition, you can now add more Web objects and customize the objects on your HTML page more easily and precisely.

For more information, see Chapter 6, *Designing a User Interface for a Web Application With the Report Layout Painter,* in *Developing Reporting Applications*.

Source File Management

Developer Studio supports third-party source file management products such as Microsoft Visual SourceSafe®, PVCS® Version Manager™ from MERANT™, and others that use an industry standard API. Source file management provides version control for development teams, allowing multiple users of Developer Studio to work on the same project without overwriting each other's modifications. A source file management product typically controls access to source code and documents all code changes.

From the Explorer, a developer can track the code for a project—for example, the procedures in a project—through an audit trail of changes.

This feature is available from the Projects on localhost area in Developer Studio and is not applicable to files in the WebFOCUS Environments area.

For more information, see Chapter 3, *Creating a Reporting Application,* in *Developing Reporting Applications.*

CHAPTER 9

Maintain

These topics describe new features that enhance the functionality and ease-of-use of WebFOCUS Maintain.

Topics:

- Redesigned Deploy Wizard
- Update Assist Tool
- WebFOCUS Connector for Excel
- Statement Trace
- Application Launch Facility
- CGI Parameter Commands
- Using Type ON EDAPRINT for Application Level Tracing
- FOCUS Data Source Support for Shared Application Server with SU
- Importing a Form from a Procedure
- Importing and Binding Variables from a WebFOCUS Report
- Maintain Performance Enhancements
- Changing FOCUS Environment Variables From Maintain
- Managing DBMS Return Codes Within a Procedure
- Issuing DBMS Commands Within a Procedure
- Passing Native SQL Commands to RDBMS
- Active Procedure on Web Console
- CONTAINS With Computed Fields
- Auto-Increment Columns
- New Maintain Functions
- NOT_IN Logical Operator
- EQ_MASK and NE_MASK Logical Operators

Redesigned Deploy Wizard

Deploying an application is the process of copying application files to a Web server and a WebFOCUS Server so the application can run on the Web and be accessed by other users. Deployment also makes needed modifications automatically to HTML, FEX and MNT files to resolve calling and application linkages.

HTML forms are used to launch the application in the Web environment. The Deploy Wizard guides you through the process of creating a configuration that manages the deployment of your application to the Web.

For more information on the Deploy Wizard, see Developer Studio documentation.

Update Assist Tool

The new Update Assist tool allows you to create fully functional update applications by answering a few simple questions. The applications will use Maintain and can perform a combination of add, update, delete, and search functions.

The Update Assist tool is ideal for generating rapid prototypes for any Maintain-based application. The tool uses standard templates. Update Assist generated applications can also be used as quick file browsers, and can generate single-screen updates that seamlessly work with WebFOCUS report drill-downs. And update assist generated application screens can be easily inserted into WebFOCUS reports and layouts.

For more information, see *Using Update Assist* in the *Developing Reporting Applications* manual.

WebFOCUS Connector for Excel

The WebFOCUS Connector for Excel allows you to use Excel to interact with WebFOCUS Maintain and WebFOCUS Reporting. This solution set lets you load data to Excel via WebFOCUS, work with the data in Excel, and update the data centrally without having to leave Excel.

You can use this solution set to develop and deploy Excel-based solutions that allow Excel users to share data in a common central database accessible to the enterprise. It's ideal for accounting, inventory, management, and performance applications - in fact, any applications for which Excel is a primary tool. The solution's major benefits are that it allows Excel users to work in their familiar environment with no training required, eliminates manual cutting, copying, pasting and rekeying of data, simplifies automatic information reconciliation, and enables you to convert all your current Excel-based solutions into Enterprise level applications without having to write code, and which access any database on any platform.

Statement Trace

The new Maintain statement trace facility allows you to trace Maintain statements within an application. The Maintain trace facility is a part of the standard iWay server trace facilities, and produces trace records in the standard trace file.

Readability of the trace files is ensured by a consistent annotated layout. A Master File that describes output allows you to create a report of relevant information for your users.

Application Launch Facility

WebFOCUS Server Release 5 includes a new launch facility for both WebFOCUS Reporting and WebFOCUS Maintain applications.

The Application Launch facility presents a tree view that lets you select components to launch. You can launch WebFOCUS Reporting and WebFOCUS Maintain Procedures and open HTML launch pages on the Web server. To access the new Application Launch console, point your browser to

```
http://hostname/approot/index.html
```

Where hostname is your Web server running the WebFOCUS Client, or your local Development Server.

CGI Parameter Commands

New Maintain language commands allow your Maintain procedures to access parameters from HTTP headers or user-defined parameters as issued on typical Web URLs. For example, you can now retrieve any parameter passed on a WebFOCUS Report drilldown to Maintain.

The new command is:

IWC.getAppCGIValue(): Return the value assigned to any parameter passed to Maintain via the WebFOCUS CGI.

For more information, please see the *WebFOCUS Maintain Language Reference*.

Using Type ON EDAPRINT for Application Level Tracing

Issuing a Type ON EDAPRINT.... ; directs tracing output to the edaprint.log file which is viewable from the Web console or SDSF display on OS/390®. Use this in production applications for communicating tracing information to the application administrator.

FOCUS Data Source Support for Shared Application Server with SU

In WebFOCUS Release 5 Version 2, the Shared Application Server supports simultaneous use on FOCUS, and is no longer limited to relational data sources. The Shared Application Server provides the scalability options necessary for Maintain applications to be accessed by many concurrent users.

The enhanced Shared Application Server allows the multi-session-per-agent functionality to be used for Maintain applications updating FOCUS data sources.

Importing a Form from a Procedure

In previous releases of WebFOCUS Maintain, forms were sourced inline inside a Maintain-only file format called CTA (Cactus Application). This allowed you to transfer projects between machines, but individual components were not transferable between files. The new Project file format, GFA, does not contain individual components, only references to them. Forms you design in Maintain are now sourced inside the related Maintain procedure. Forms are sourced in XML and are converted to WINFORM code when you run a project from the MDE or deploy it to a remote server.

The developer's toolset gives you the ability to export any Maintain form to a file with the FOR extension. You can then import the FOR file into other Maintain projects. This gives you the ability to create and reuse form templates from project to project, and lets you share template forms with other developers.

Importing and Binding Variables from a WebFOCUS Report

The new Variable-Binding Wizard is a graphical tool allows you to bind any Maintain procedures to drill-downs WebFOCUS reports without having to write code. This is especially useful if you have users who need to make "spot updates" from WebFOCUS reports. To use it, you add a drilldown to Maintain to your WebFOCUS report, passing all keys needed to locate the record in Maintain. The Variable binding Wizard then lets you create the WebFOCUS parameter-to-Maintain variable binding without having to write any Maintain code.

Maintain Performance Enhancements

Performance enhancements include execution and memory enhancements.

- Execution time for Web transaction screens has been cut by 50%.
- Smaller Memory Requirements. Memory usage has been optimized in a number of areas:
  - Compiled procedures take 30% less memory on average.
  - User stacks start with a smaller initial size.
  - WEBFORMS use less memory

Changing FOCUS Environment Variables From Maintain

The ability to change the setting of specific environmental controls from Maintain gives greater flexibility and control within a Maintain session. This feature allows specific FOCUS environmental variables a within a procedure:

- CDN
- COMMIT
- DATEDISPLAY
- DEFCENT
- EMGSRV
- MESSAGE
- NODATA
- TRACEOFF
- TRACEON
- TRACEUSER
- WARNING
- YRTHRESH

Managing DBMS Return Codes Within a Procedure

The new DBMS_ERRORCODE property of the SYS_MGR object has the SQLCODE of the last database command. Applications can use DMBS_ERRORCODE to gather more details regarding why an operation failed than are available in FOCERROR. For example, an INCLUDE might fail due to referential integrity failure, lack of permissions, or any number of reasons. DBMS_ERRORCODE has the specific SQLCODE from the DBMS so your application can take the correct action.

Issuing DBMS Commands Within a Procedure

All of the direct passthrough commands and access parameters can be issued within a Maintain procedure by using the ENGINE function of the SYS_MGR object. Applications can create and drop tables, create indexes, and even run RPCs. The ENGINE function is passed the engine name and the command and returns a return code.

Passing Native SQL Commands to RDBMS

This feature allows native SQL commands to be passed directly to the RDBMS from a WebFOCUS Maintain session without translation or syntax checking. In earlier versions, SQL commands could not be issued from non-Maintain code. A return code indicates the success or failure of the command.

Used in conjunction with returning specific DBMS error codes, this feature gives you greater flexibility and control when designing applications for RDBMS update.

This feature can also be used to send SQL EDA commands for n-tier Maintain applications using FOCUS data sources.

Active Procedure on Web Console

WebFOCUS now provides access to the server-side Web Console. The Server Console allows you to configure your WebFOCUS Server, create and modify applications, check status and modify behavior of server agents, and test and monitor all server functions for both Reporting and Maintain.

For Developer Studio users, the Maintain procedure currently running is now displayed on the Web Console in the Last Command column in the agent and session windows.

CONTAINS With Computed Fields

A declared or computed field can now be used as a CONTAINS value or an OMITS value in a NEXT command against a database.

Auto-Increment Columns

Auto-increment columns are useful in transaction processing. Auto-increment columns may be used when many updates could occur for one key field; for example, one social security number with several updates to reflect an individual's multiple purchases.

In release 5.2, you can use the new read-only fieldtype (FIELDTYPE=R) for auto-increment columns. Update languages such as Modify and Maintain ignore columns with this designation and allow the RDBMS to handle the automatic generation of the value.

New Maintain Functions

The following functions are new to the 5.2 release.

- CHAR2INT returns the integer value of an ASCII or EBCDIC character.

  int=char2int("x");

- INT2CHAR returns a character from the current 256 element code-page.

  char=int2char(93);

- NLSCHR converts characters from the native English code page to the running code page. For example, if you want to display a dollar sign, no matter what the code page is,

  compute adollar/a1=nlschr("$");

  This is most useful when hosting Web applications on EBCIDIC host with non English code pages.

- GetAppCGIVariable

NOT_IN Logical Operator

The new NOT_IN operator is true when a field is not in a list of values.

Example Using the NOT_IN Operator

The following example illustrates a qualifier that does not include England or France.

```
For All Next Country Where Country NOT_IN ("ENGLAND","FRANCE");
```

EQ_MASK and NE_MASK Logical Operators

The new EQ_MASK and NE_MASK operators allow you to compare a database field to a computed field that uses $ as a wild card character.

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